Air Live®
Powered by OvisLink Corp.

FE-200DM

2-MegaPixel Ceiling Mount
Fish Eye PoE IPCAM

User's Manual

www.airlive.com

Owner's Record

The model and serial numbers are located at the bottom of device. Record these numbers in the spaces provided below. Refer to these numbers whenever you call upon your dealer regarding this product.

Model No. _____
Serial No. _____

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.
For AC Adaptor to avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.

Notice: The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

For customers in the U.S.A.

This equipment has been tested and found to comply with the limits for a digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

– Reorient or relocate the receiving antenna.
– Increase the separation between the equipment and receiver.
– Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
– Consult the dealer or an experienced radio/TV technician for help.

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

The shielded interface cable recommended in this manual must be used with this equipment in order to comply with the limits for a digital device pursuant to Subpart B of Part 15 of FCC Rules.

Declaration of Conformity

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) This device may not cause harmful interference, and
(2) This device must accept any interference received, including interference that may cause undesired operation.

IMPORTANT NOTE: To comply with the FCC RF exposure compliance requirements, no change to the antenna or the device is permitted. Any change to the antenna or the device could result in the device exceeding the RF exposure requirements and void user's authority to operate the device.

NOTICE TO USERS

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We reserve the right to make any modification to this manual or the information contained herein at any time without notice. The software described herein may also be governed by the terms of a separate user license agreement.

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1 Introduction

1.1 Overview

AirLive FE-200DM is a Fish-Eye Panorama Network Dome Camera featured with 2Mega Pixel resolution and superior H.264-AVC performance and rich functions. AirLive FE-200DM includes a fish-eye lens for 360° panoramic wide angle view without blind spot. It is very suitable to view a wide area with only one single camera such as hallway, store, and office without the need to install multiple cameras.

The hardware base panorama video processing ability provides user flexible video layout including broad view, double broad view, 3 PTZ view, QUAD view, and table view. The e-PTZ function, pan, tilt and Zoom In/Out without moving parts, can replace traditional PTZ camera and thus save lost of traditional mechanical Pan/Tilt maintain cost.

The PoE function (ND636E) is designed for flexible installation.
Further functions include two-way audio, DI/DO alarm application and micro SD card support for local storage application.

Features

- Panoramic 360 Degrees Full View
- H.264 & MJPEG Video Compression
- 2 Megapixels Resolution at 1600 x 1200 pixels
- Two-way Audio Support
- Mechanical ICR
- Built-In Speaker & Microphone
- Micro SD card for Local Storage
- Power-Over-Ethernet 802.3af
- Advanced e-PTZ
- Support Ceiling Mount, Wall Mount and Table View Application

Minimum System Requirements

- Microsoft Internet Explorer 7.0 or later
- Microsoft Media Player 11.0 or later (to playback recorded file)
- VGA Monitor resolution 1280 x 1024 or higher
- Pentium-4 3.6 GHz or higher
- Memory Size: 1GB or more
- Windows XP, Vista, 7

1.2 Package Contents

A user can find the following items in the package:

1. **FE-200DM**
2. **Power Adapter** dedicates 12V DC electric power output to Network Camera.
3. **Installation CD** provides installation software, application program, tutorial videos, important information and instructions for operating the Network Camera.
4. **Quick Start Guide** provides important information and instructions for installing this device.

***Note**: Using a power supply with a different voltage than the one included with the Network Camera will cause damage and void the warranty for this product.*

1.3 Physical Overview and Connections

1. Light Sensor:

The Light sensor is for detecting IP Camera environmental illumination. If IP Camera is in the dark/night environment, IR Cut Filter is switched off to let infrared light pass through for clear night view.

2. MIC:

The IP Camera has built-in an internal microphone, which is hidden in the pinhole located on the front panel.

3. Lens Focus Adjustment:

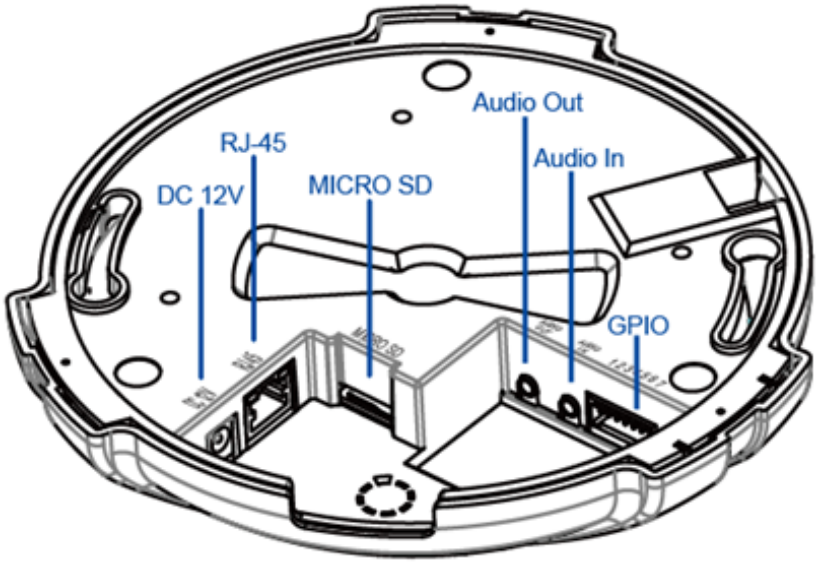
Rotate the lens to adjust the focal length to the best image.
If necessary, clean the lens with a soft cotton cloth.

4. Speaker:

The IP Camera has built-in an internal speaker, which is hidden in the pinhole located on the front panel.

5. Reset Button

This button is hidden in the pinhole. For more information, please refer to Appendix A for Restore Factory Default instruction.



6. Power Jack:

The input power is DC 12V, 2A.

Note: ONLY use package power adapter supplied with the internet. Otherwise, the product may be damaged.

7. RJ-45 LAN Socket:

Connect to PC or Hub / Switch via a 10Base-T Ethernet or 100Base-TX Fast Ethernet Cable.

This Ethernet port built with audio-negotiation protocol which can detect or negotiate the transmission speed of the network automatically. Please use CAT-5 cable to connect the Network Camera to a 100Mbps Fast Ethernet network switch or hub.

Note: ONLY use one power source, either from DC or from 802.3af Power over Ethernet.

8. Micro SD Card slot:

The IP Camera has built-in a Micro SD card slot which can accepts Micro SD memory card for image / video event recording.

9. Audio In:

Connect a microphone to the IP Camera. Be noted to use actively microphone (normally with power supplier on microphone) for this application.

10. Audio Out:

Connect a loud speaker to the IP Camera.

This is for voice alerting and two-way audio. Be noted to use actively speaker (normally with power supplier on speaker) for this application.

11. GPIO:

The 7 pin terminal block includes 4 input ports and 1 output ports.

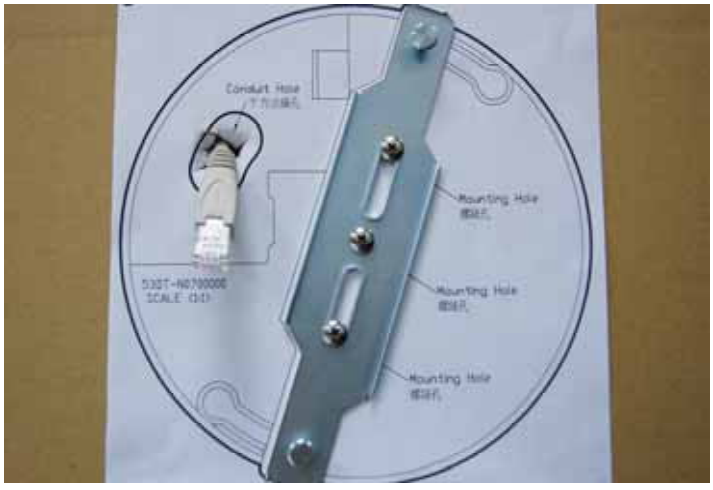
1.4 Mounting the Camera

Fix the camera with as below.

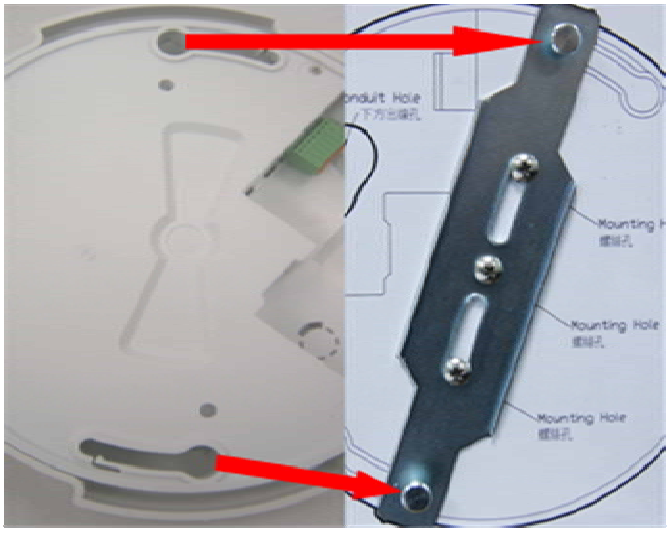
1. Take out the camera and accessories from the package:

The installation sticker, stand and FE-200DM

2. First, paste the sticker to a suitable position. Fasten the screws with stand into the mounting hole. Pass the network cable through the "conduit hole".



3. Connect the network cable into the camera, and then mount the camera onto the stand.



4. Rotate the camera by clockwise to mount it firmly.

1.5 Install the Camera in LAN

1. Plug an Ethernet cable into the Camera

Connect an Ethernet cable to the LAN socket and attach it into the network.

2. Connect the external power supply to Camera

Connect the attached power adapter to the DC power jack of the camera.

Note: Use the power adapter, 12VDC, included in the package and connect it to wall outlet for AC power.

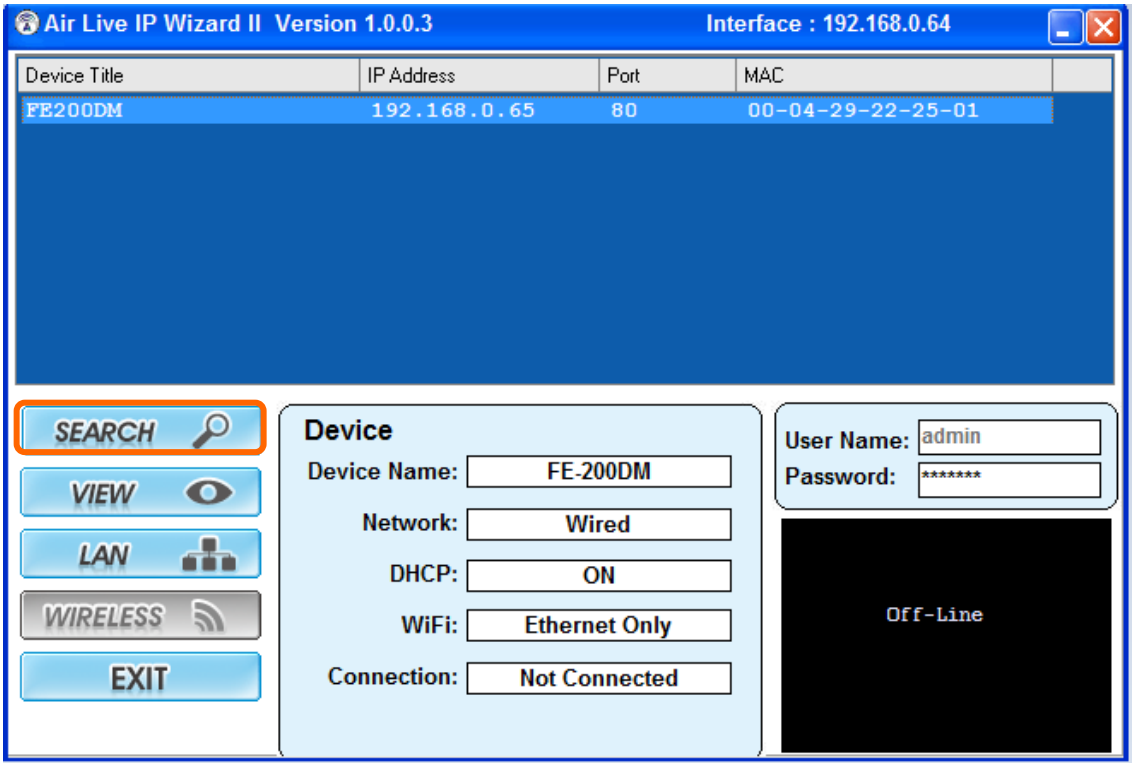
Once you have installed the camera well and powered it on, the power LED (orange) will turn on later. The power LED turned on, it means the system is booting up successfully. Furthermore, if you have a proper network connection, and access to the camera, the LAN LED (green) will flash.

2 Preparation

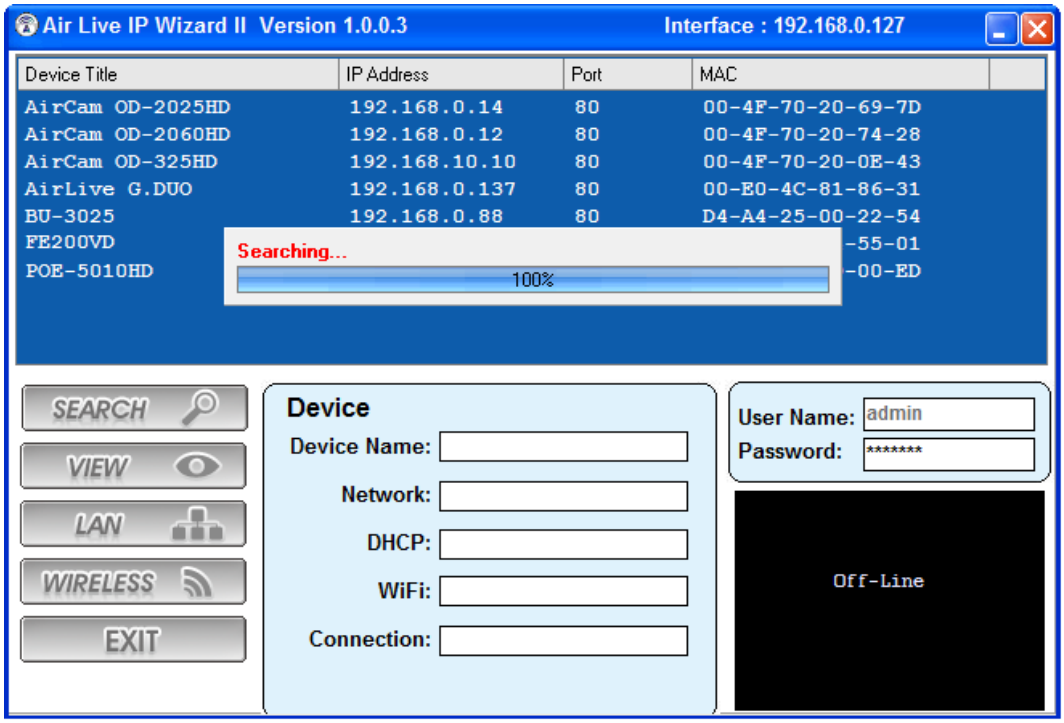
2.1 Search and Set up by IPWizard II

When you installed the Camera on a LAN environment, you have two easy ways to search your Cameras by IPWizard II or UPnP™ discovery. Here is the way to execute IPWizard II to discover Camera's IP address and set up related parameter in a Camera.

2.1.1 Search



When launch the IPWizard II, a searching window will pop up. IPWizard II is starting to search Network Cameras on the LAN. The existed devices will be listed as below.



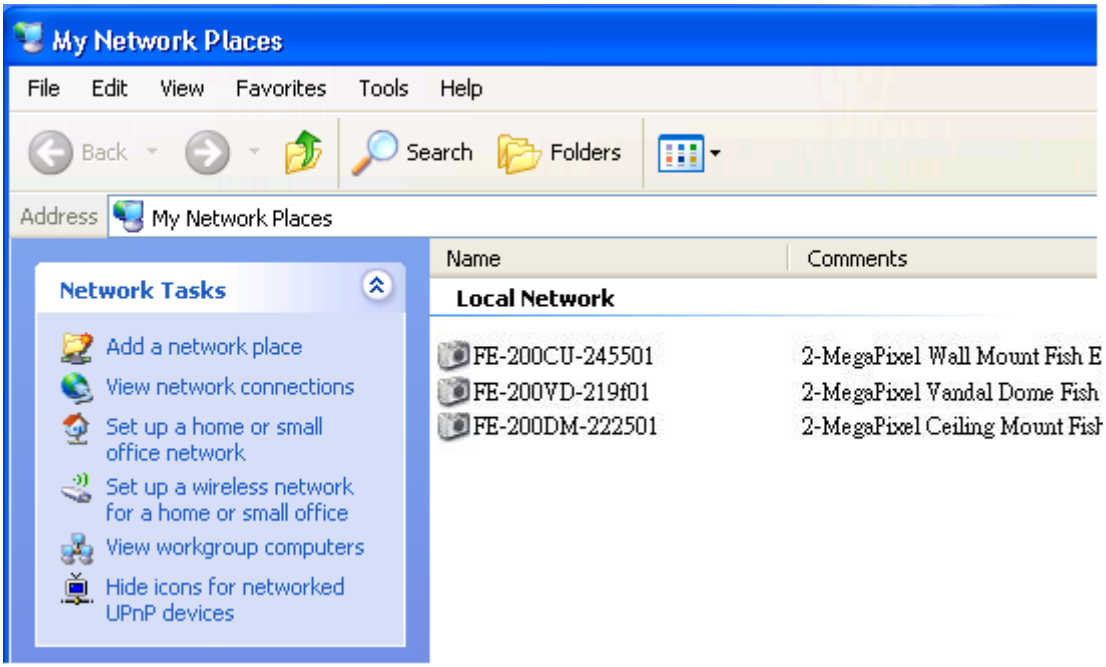
2.2 UPnP of Windows® XP, Vista or 7

UPnP™ is short for Universal Plug and Play, which is a networking architecture that provides compatibility among networking equipment, software, and peripherals. This device is an UPnP enabled device. If the operating system, Windows XP, Vista or 7, of your PC is UPnP enabled, the Network Camera will be very easy to be found.

Please refer to Appendix J to enable UPnP settings only if your operating system of PC is running Windows XP.

Note: Windows 2000 does not support UPnP feature.

To discover your device, go to your Desktop and click **My Network Places**.



Click the targeted **Device**. Then Internet Explorer will connect to this Network Camera automatically.

2.3 Install the Device behind a NAT Router

Once installed, the device is accessible on your LAN. To access the device from the Internet, you must configure your broadband router to allow incoming data traffic to the device. If the device is installed on the LAN with a router, then it may get a dynamic IP address from the DHCP server. However, if the device wants to be accessed from the WAN, its IP address needs to be setup as fixed IP, also the port forwarding or Virtual Server function of router needs to be setup.

However, if your NAT router supports UPnP feature, it can be very easy to achieve NAT traversal automatically. To do this, enable the NAT-traversal feature, which will attempt to automatically configure the router to allow access to the camera.

Installing the device with an UPnP router on your network is an easy 3-step procedure:

(1) Enable UPnP option of your NAT router
(2) Enable UPnP NAT traversal option of the Network Camera (default)
(3) Access your Network Camera by DIPS

(1) Enable UPnP option of your NAT router

To use UPnP IGD function (NAT traversal), you need to make sure the UPnP function is enabled in your router. Most new home routers should support this function. Some of routers are default enable and others are not. Please check user's manual of your NAT router for detail.

(2) Enable UPnP NAT traversal option of the Network Camera

Refer to **Setting ➔ Network ➔ UPnP** page for detail NAT traversal setting.
Note that this option is default enabled.

(3) Access your Network Camera by DIPS

Refer to **Setting ➔ System ➔ System** page for detail DIPS information.

2.4 Access the Device from the Internet Explorer for the First Time

1. Start the web browser on the computer and type the IP address of the Camera you want to monitor as below:

The Login Window of the Camera is prompted:

2. Type in your login name and password under “USERNAME” and “PASSWORD” textbox.

   For the first time use (default value), input the
   User Name: **admin**
   Password: **airlive**

   After typing in “**admin**” on the “USERNAME” and “**airlive**” on the “PASSWORD”, click “OK” button to start the main menu.

3. According your browser’s security setting, the IE Web Page may prompt the “Security Warning” window. If so, select “Yes” to install and run the ActiveX control into your PC. Otherwise, the system will load the ActiveX silently.

4. After the ActiveX control is installed and ran, the first image will be displayed.

2.5 Logging in as an User

If you log in the Camera as an ordinary User, “Configuration” function will be not accessible.

2.6 Logging in as an Administrator

If you log in the Camera as the Administrator, you can perform all the settings provided by the device.

3 Operating the Network Camera

Start-up screen will be as follow no matter an ordinary users or an administrator.

Configuration

Click for configuring the camera settings.

Language

The device could provide multiple languages to meet customer's requirement.

Display Mode

Click on different video modes to display different views.

Actual Size

Display the actual resolution size of the video when checked.

Video Profile

The device supports multi-profile function for H.264, MEPG4 and JPEG simultaneously. A user can chose the proper and/or preferred profile which is listed here.

Protocol

User can select proper streaming protocol according to networking environment.

Manual Trigger

Trigger manually a preset event in the configuration page.

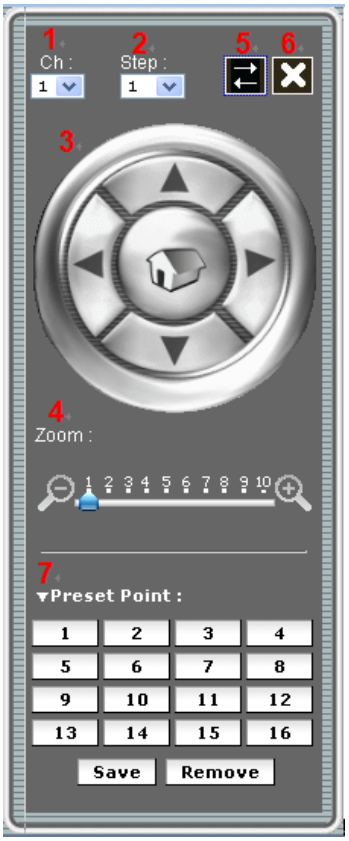
PTZ

The PTZ function will display in Broad view, Quad view, Quad with source view, Double view and Triple view of Ceiling Mount. Click on the PTZ icon, the web will popup the control panel to control e-PTZ function of FE-200DM.

- Broad view PTZ control panel:

1. Step: Set the speed of Pan Function. (1~10)
2. Pan Arrow: Click to control Pan Function.
3. Move the control panel.
4. Close the control panel.

- Quad view & Quad with source view PTZ control panel:



1. Ch：Select the channel. (1~4) & (2~4)
2. Step：Set the speed of Pan/Tilt Function. (1~10)
3. Pan/Tilt Arrow：Click to control the Pan/Tilt Function.
4. Zoom：Digital zoom in/out. (1~10)
5. Move the control panel.
6. Close the control panel.
7. List of preset points. (1~16)

2-Way Audio

The device supports 2-way audio function. A user can choose to enable or disable this function by toggling the icon below.

: Disable speaker function.

: Enable speaker function.

: Disable audio uploading function.

: Enable audio uploading function.

Volume

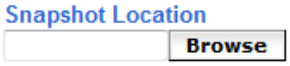
Click Speaker button to activate this function. Scroll the control bars to adjust the audio attribute.

Full Screen

Enlarge video to full screen display. Press “ESC” key to disable this function.

Snapshot

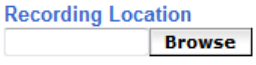
Click Snapshot to activate this function. Press Snapshot button to take a picture. The image file is saved as JPEG format into your local PC.
If you like to retrieve the saved image, select the file to display the saved image by using any one of graph editing tools.

Snapshot Location 

Select Snapshot Location to select the save path and file name prefix, select OK to continue.

Record

Click Record to activate this function. Press Record button to start recording. The video file is saved as ASF format into your local PC. While you want to stop it, press Stop to stop recording.

Recording Location 

Select Recording Location to select the save path and file name prefix, select OK to continue.

Push to talk

Click on the "push to talk" button continually, you can talk to the person via speaker of the IP Camera.

4 Administrating the Device

System Setting

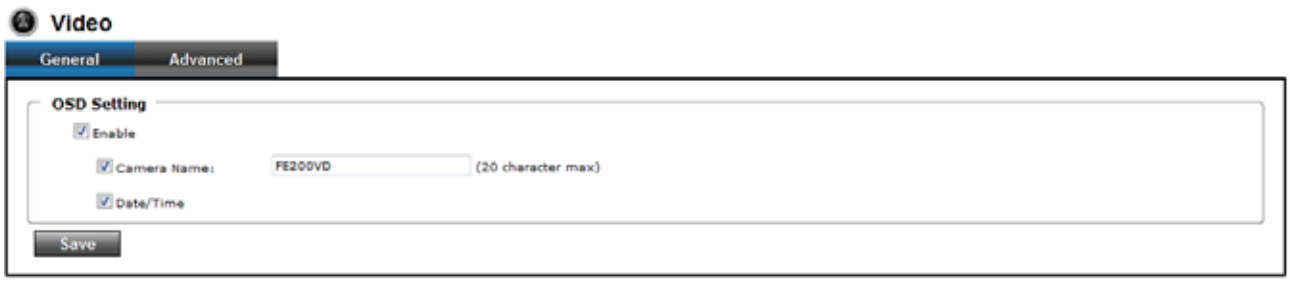
This function is only available for a user logs into Camera as administrator.

Click on each menu name to display its setting page.

Item	Action
Video	Configure bit rate and frame rate of video profiles.
Camera	Adjust camera parameters.
Event	Setup Event server, Motion Detection, I/O Ports and Event configuration.
Schedule	Configure the schedule while event triggered
Network	Configure Network settings such as DHCP, DDNS, RTSP, PPPoE and UPnP
System	Configure system information, date & time, maintenance, and view system log file.
Customize	Provides the user features to customize the outlook of the web user interface

4.1 Video: Configure Profile

4.1.1 General



- OSD Setting:
  Enable OSD to display camera name and date/time on the image.

4.1.2 Advanced

- Stream Setting
  Note: Configuration of stream 2 is the same as stream 1, but Stream 2 can only be set to 320x240 or 640x480.

- RTSP Path
  The RTSP Path is the stream ID used for RTSP client streaming connection, such as VLC player. The default values are v00, v01 and v02 for the three streams respectively. The string can be any combination of number or capital/small letters. It cannot be empty however.

- Resolution
  The resolution here describes an image size counted by width and height, e.g. 640x480, referring to pixel resolution. The 1st stream can be set from more options of resolution; 1600x1200 (2 megapixels), 1280x720(HD), 800x600(SVGA), 640x480(VGA), 320x240(QVGA), while Stream2 has the options of VGA and QVGA.

- Video Mode
  This option allows the selection of two bit rate modes, the Constant Bit Rate (CBR) or Variable Bit Rate (VBR). CBR refers to the setting of a fixed Target Bit Rate (configuration in the rage of 64Kbps to 6Mbps) that would apply in the case of limited bandwidth or/and storage requirement. While CBR concerns a fixed data rate transmitting, the video quality is of high priority for VBR mode selected. VBR therefore is configured with the Quality Level (Standard, Good, Best). In general, CBR predicts the provided condition; if image activity requires higher bit rates than configured, the frame rate and quality would be affected as not likely to increase bandwidth (bit rate). In spite of the required recording storage estimation, VBR is by way of compensation that adjustable bit rate fits the actual image activity.

- Image Format
  H.264 and MJPEG are available for image format selection. The term, “image format”, is referring to compression / encoding technique. The selection of image format decides the performance of bandwidth and storage requirement. In the request of same video quality, H.264 contributes to less bandwidth and storage requirement, which is more efficient than MJPEG.

- GOP
  In H.264 video coding, GOP (group of pictures) describes how the different types of frames are arranged. The frame types implemented here are I-frame (full image information) and P-frame (motion-compensated difference information). This setting configures the GOP length which is the number of frames before next I-frame appears. Having more I-frames usually increases the stream size, and therefore more bandwidth and storage are required.

- Frame Rates
  The Frame Rates defines the number of frames that will be displayed per second. The frame rate setting can affect the target bit rate (bandwidth requirement) and storage requirement.

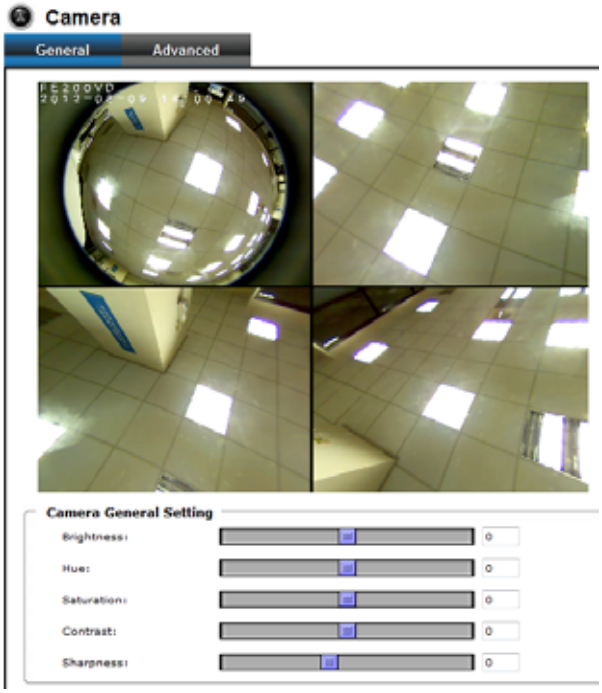
  Note:
  While multiple streaming is possible, each stream has its limitation and dependency to other stream.

4.2 Camera: Adjust Camera Parameters

Use this menu to set the functions of the camera parameters of the device.

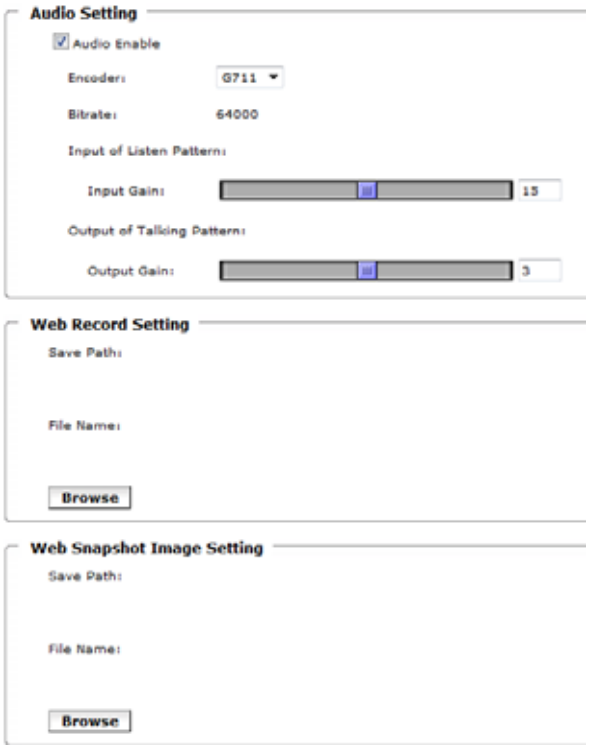
4.2.1 General

Use this function to determine the Auto Contrast Compensation level.



- Camera General Setting:
  - Brightness: Set the luminance of image.
  - Hue: Refer to pure color; it modifies the different display of specific color such as red, green or blue.
  - Saturation: Set the intensity of a specific color.
  - Contrast: Set the difference in color and light between parts of an image.
  - Sharpness: Set the sharpness of camera.

  The 5 parameters above are referring to image appearance in terms of color/vision. These are adjustable from this page.



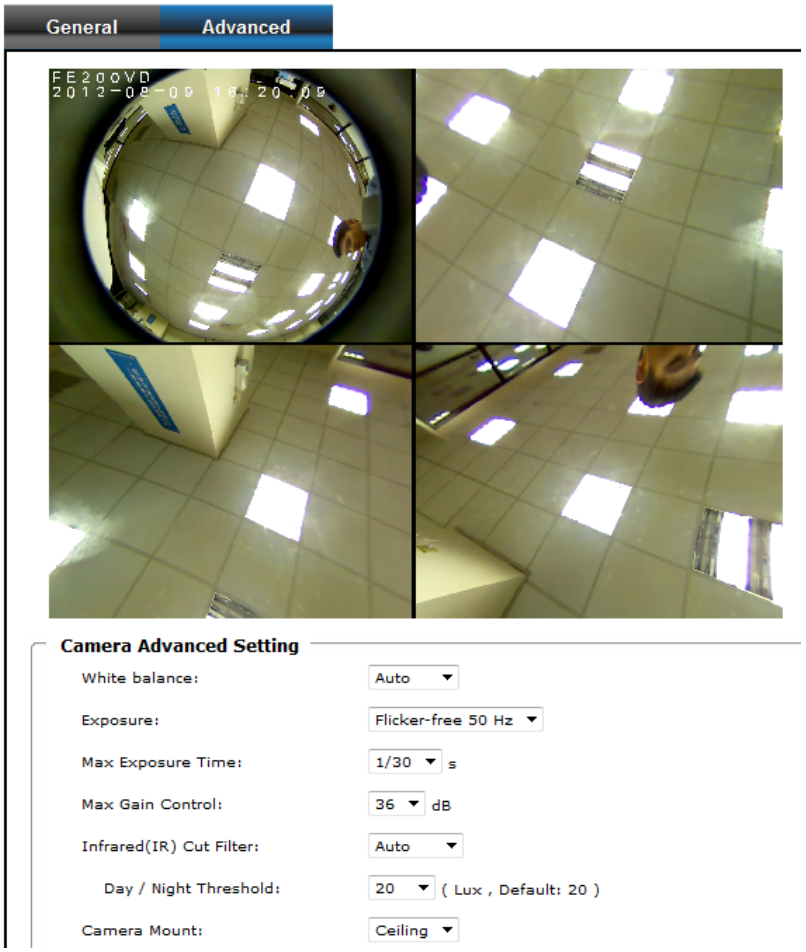
- Audio Setting:
  Audio Enable: Turn on/off the audio.

- Web Record Setting:
  Save Path / File name: Click on the “Browse” button to select the desired path to save as well as naming the video file.

- Web Snapshot Image Setting:
  Save Path / File name: Click on the “Browse” button to select the desired path to save the snapshot as well as naming it.

- Save:
  Save the changes that have been made.

4.2.2 Advanced



- White balance:
  Adjustment to compensate for different environments in terms of light source. A user can choose auto/hold/sunny/cloudy /indoor, so FE-200DM can determine the correct color compensation due to different light environment.

- Exposure:
  Anti-flicker setting for image sensor to fit the frequency of light (power) source. For instance, the power frequency is 50Hz for most European countries, while 60Hz is typically for US. This setting is therefore regionally different. Note: Default setting is 50Hz.

- Max Exposure Time:
  Referring to the shutter speed.

- Max Gain Control:
  The amplification factor for the incoming light.

- Infrared (IR) Cut Filter:
  The default is automatically switched according to the light intensity. "Enable" indicates the filter is enable to cut IR light to make sure the color is correct. "Disable" indicates the filter is disabled and allows the infrared (such as IR LED illuminator) to enter the camera to execute low lux surveillance application.

- Day / Night Threshold:
  The threshold to change Day or Night mode. The default is 20 lux. It indicates that when the lux is lower than 20 lux, the camera will automatically change to night mode and allow Infrared to enter the camera.

- Color/Mono Mode:
  The default is automatically switched according to light intensity. It can also be forced to display color image even in a low light environment.

- Camera Mount:
  Choose camera mounting type: Wall, Ceiling and Table Mount.

  1. Wall Mount:

  For Choosing Wall mount type, go back to Live view. There are 4 kinds of video layout to choose, including Original view, Broad view, Quad with source view and Triple view.

(1) Original view:

(2) Broad view:

(3) Quad with source view:

(4) Triple view:

2. Ceiling Mount:

For Choosing Ceiling mount, go back to live view. There are 6 kinds of video layout to choose from Original view, Broad view, Quad view, Quad with source view, Double view and Triple view.

(1.) Original view:

(2.) Broad view:

(3.) Quad view:

(4.) Quad with source view:

(5.) Double view:

(6.) Triple view:

3. Table Mount:

For Choosing Table mount, go back to live view. There are 2 kinds of video layout to choose from Original view and Double view.

(1.) Original view:

(2.) Double view:

4. 720P Wall Mount:

For Choosing 720P Wall Mount type, go back to Live view. There are 3 kinds of video layout to choose, including Broad view、Double view、Double with source view.

(1.) Broad view:

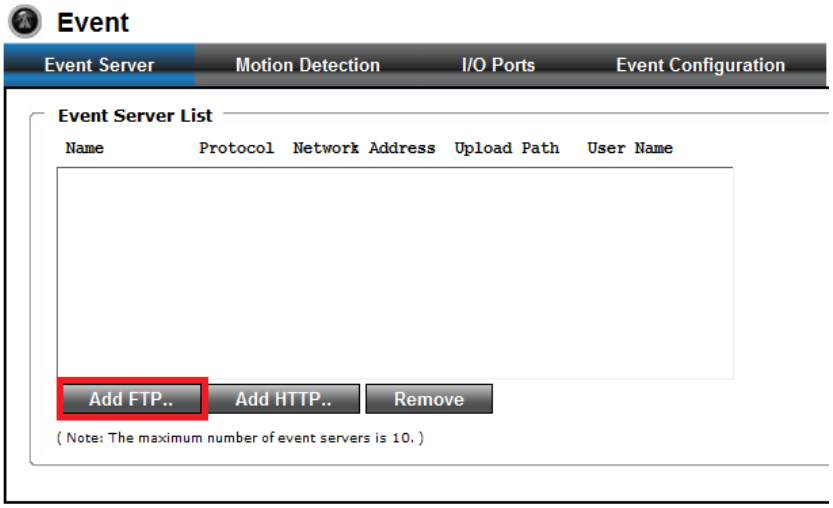
(2.) Double view:

(3.) Double with source view:

4.3 Event

4.3.1 Event Server

Add FTP Server: Click on the “Add FTP” to expand FTP server setting.



FTP Server:

Name: Give a name for the FTP server

Network Address: Input the network address of the FTP server

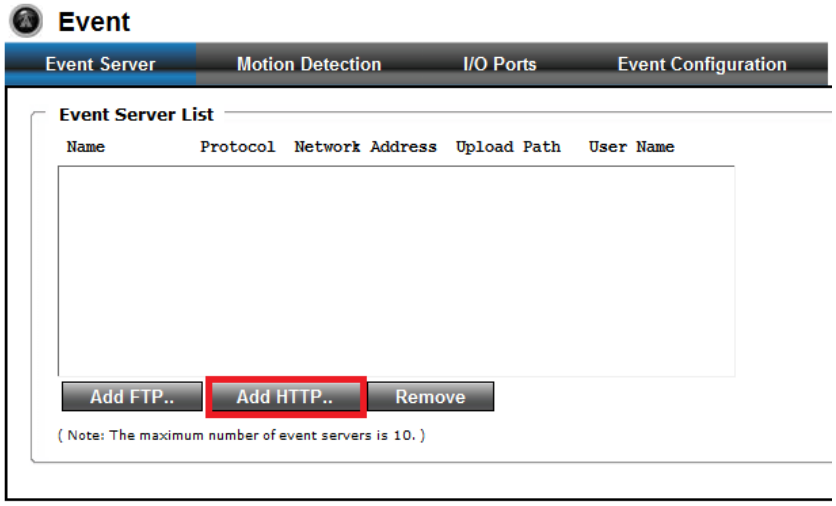
Upload Path: Choose the desired upload path for events

Port: Input the port number of the FTP server

Login Information:

Username / Password: Input the username and password of the FTP

Add HTTP Server: Click on the “Add HTTP” to expand HTTP server setting.



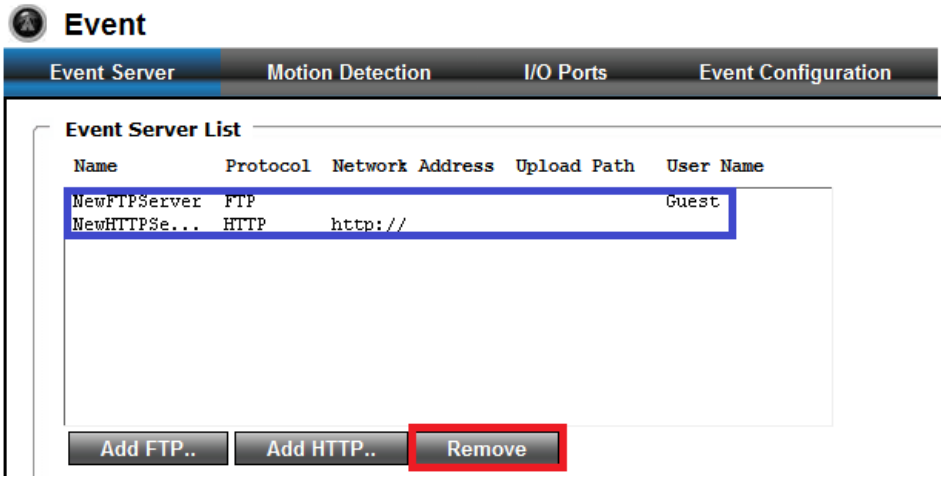
HTTP Server:

Name: Give a name for the HTTP server

URL: Input the network address of the HTTP server

Username / Password: Input the username and password of the HTTP.

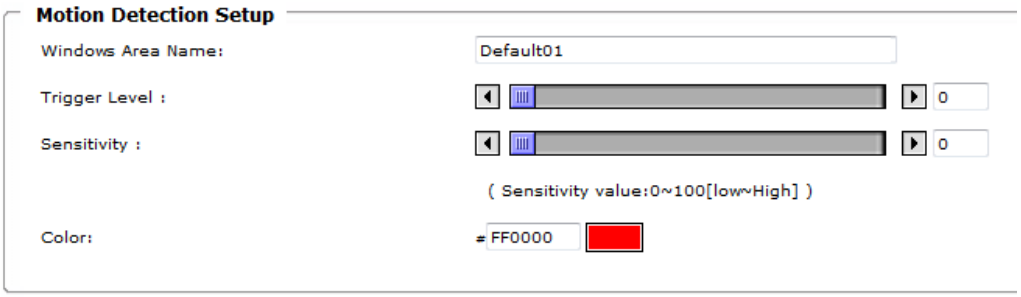
Remove: Click “Remove” to delete selected event servers.



4.3.2 Motion Detection

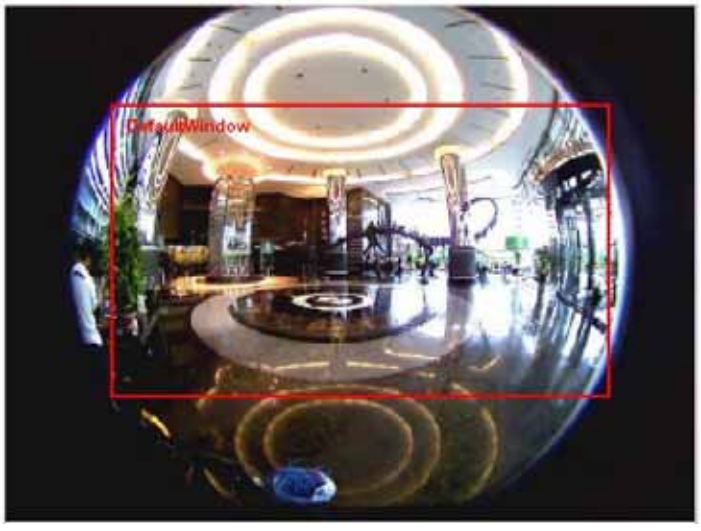
- To add a motion detection area:

1. Click on “Add” to set up a detection area. (Setup panel will be expanded)

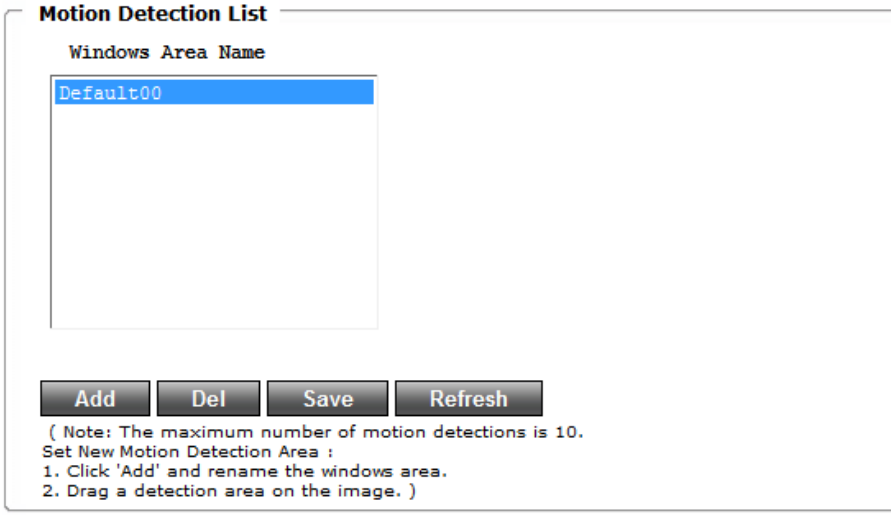


2. Give a name to this window area.
3. Select the trigger level and sensitivity for this detection window. (0~100, low~high)
4. Select color for detection window.

5. Draw detection window on the image.



6. Once everything is done, click on “Save” to save the configuration made. Configured detection window will be displayed in motion detection list. (Circled in blue)

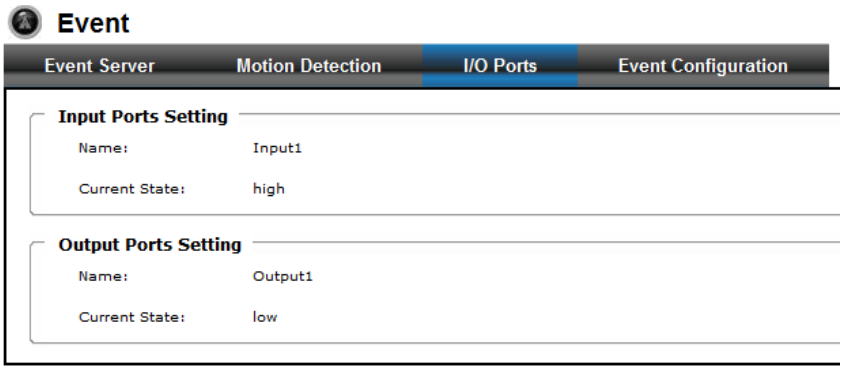


Note:

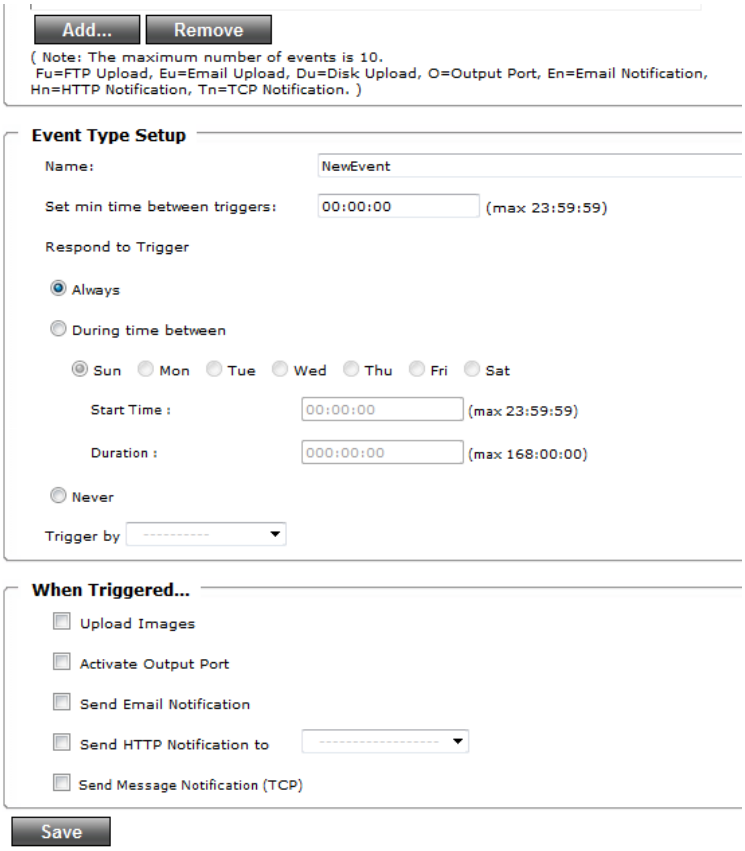
1. Maximum number of detection window is 10.
2. Motion Detection windows need to be modified if users change video layout.

4.3.3 I/O Ports

AirLive FE-200DM supports 1 photo-coupled relay inputs and 1 relay outputs. Refer to "**Appendix A: I/O Terminal Connectors**" for detail pin description and application. The below table shows the status of the external trigger/alarm devices.



4.3.4 Event Configuration



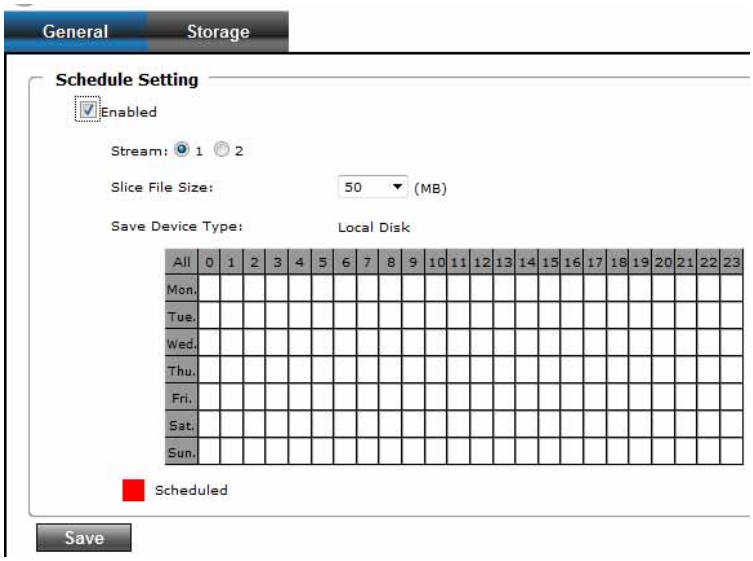
1. To add an event trigger, click on “Add” and the setup panel will be expanded.
2. Give a name to this event.
3. Set the time interval between each trigger.
4. Set the time period for the trigger. Choose “Always” or “During time between” or “Never”.
5. The trigger condition is Motion Detection.

The responding actions can be “Upload images” and “Activate Output Port” and “Send Email Notification” and “Send HTTP Notification to” and “Send Message Notification (TCP)”. Click on “Save” to save the configuration made.

4.4 Schedule

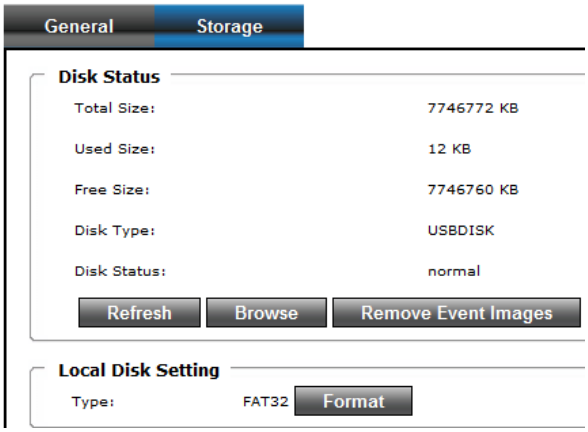
4.4.1 General

Define the day (specified by days of a week) and time (specified by each single hour) for that will be recorded during the scheduled period. Note only video data will be recorded. A user can select which video stream should be recorded, and the size of each sliced file. When the check box is ticked and setting is saved, the recording process starts. Recording files are saved to the Micro SD storage.



4.4.2 Storage

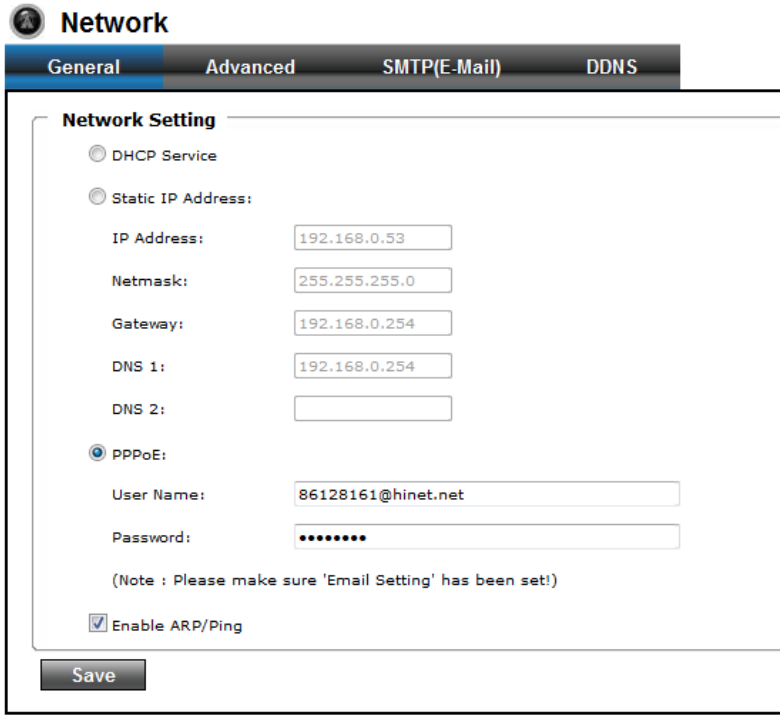
Display the storage information, including disk size info, type and status. The warning message shows when recording is on process; Micro SD card should not be removed during the recording process.



4.5 Network

4.5.1 General

Device IP configuration, includes DHCP and Static IP setting. “Enable ARP/Ping” enable device to accept ARP or ping packets from the network. Disable this option may provide extra security from intentional ping.



- DHCP Service:
  Stand for Dynamic Host Configuration Protocol.

  Enable this checked box when a DHCP server is installed on the network to issue IP address assignment. With this setting, the IP address is assigned automatically. If this device can not get an IP address within limited tries, the device will assign to the default IP address, 192.168.1.100, by itself.

- IP address, Subnet mask, and Gateway:
  If you do not select Obtain an IP address automatically, then you need to enter these network parameters manually.

- DNS 1 and DNS2:
  If you do not select Obtain DNS from DHCP, then you need to enter these parameters manually.
  Enable this checked box when a DHCP server is installed on the network and provide DNS service.

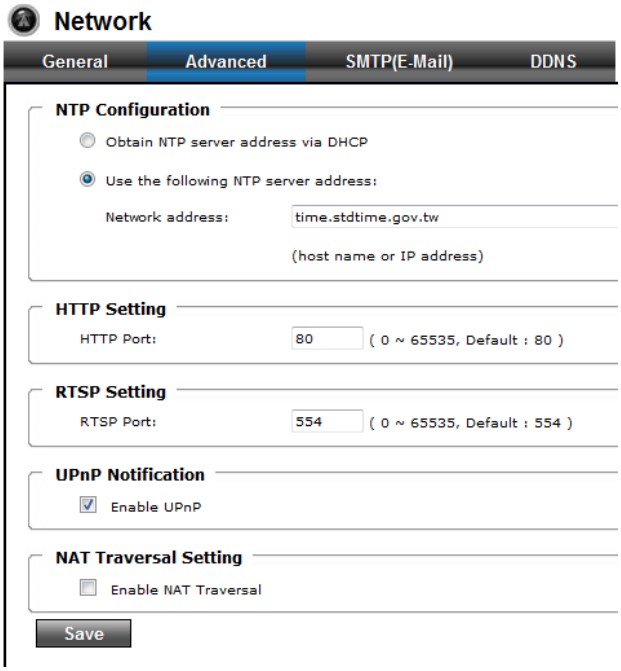
- PPPoE:
  A standard builds on Ethernet and Point-to-Point network protocol. It allows your device with xDSL or cable connects with broadband network directly. Then, your device can dial up and get a dynamic IP address. For more PPPoE and Internet configuration, please consult your dealer or ISP.

The device can directly connect to the xDSL. However, it should be setuped on a LAN environment to program the PPPoE information first, and then connect to the xDSL modem. Power on again. Then, the device will dial on the ISP connect to the WAN through the xDSL modem.
Connect to a LAN by DHCP or Fixed IP.

Access the device; enter Setting ➔ Network ➔ PPPoE as below.
PPPoE:
To enable or disable the PPPoE service here.
User name:
Type the user name for the PPPoE service which is provided by the ISP.
Password:
Type the password for the PPPoE service which is provided by the ISP.

4.5.2 Advanced

Enable or configure other network functions.

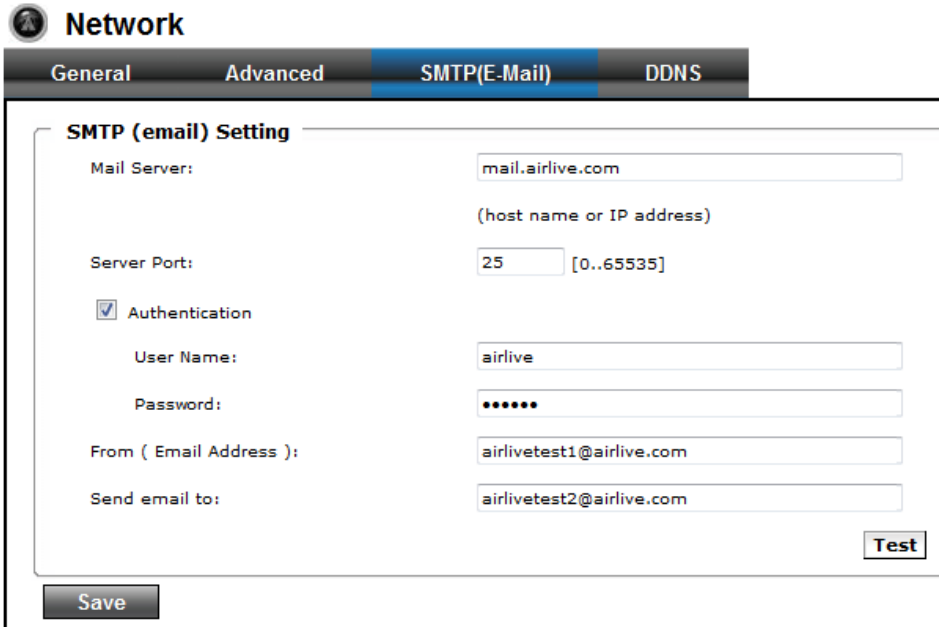


- NTP:
  Configure a NTP (Network Time Protocol) server, so that the device system date and time can be synchronized with a specified Time Server or DHCP server.
- HTTP:
  Set the HTTP port that will be applied for Web UI access.
- RTSP:
  Set the RTSP (Video) port for video data transmission.

- UPnP:
  Enable UPnP, so that the device can be discovered in an UPnP Compliant Network.
- NAT Traversal:
  Enable NAT traversal, so that the client from Internet can have access to the devices behind the Router.

4.5.3 SMTP (Setup E-Mail Configuration)

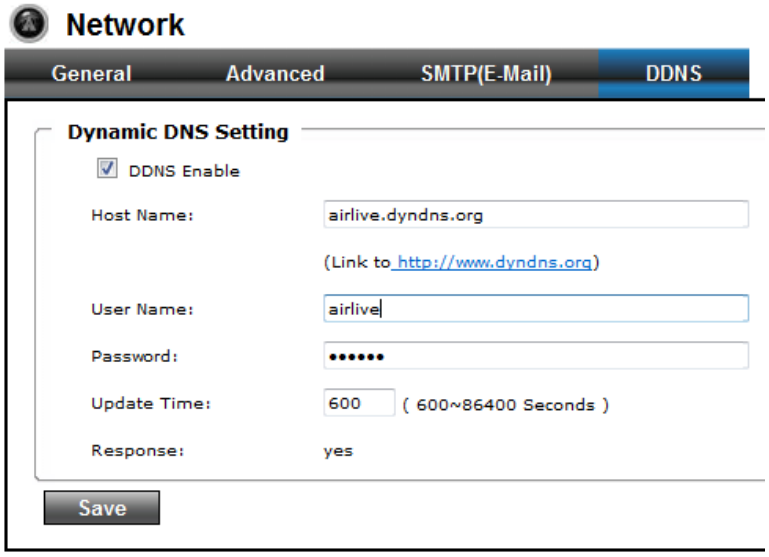
Note: With UPnP enabled, the IP Sharing device (Router) capable of UPnP function will automatically be noticed with the device's NAT port.
Configure an email host in the device that will send an email on behalf of the configured email account in a circumstance, like sending an email notice to a specified mail address (Event Configuration). Complete the Mail Server, Server Port, Authentication information (if required) and the sender email address.



4.5.4 DDNS (Dynamic DNS)

Dynamic DNS configuration. The network device can be assigned with a host name by registering this service (Internet access required).

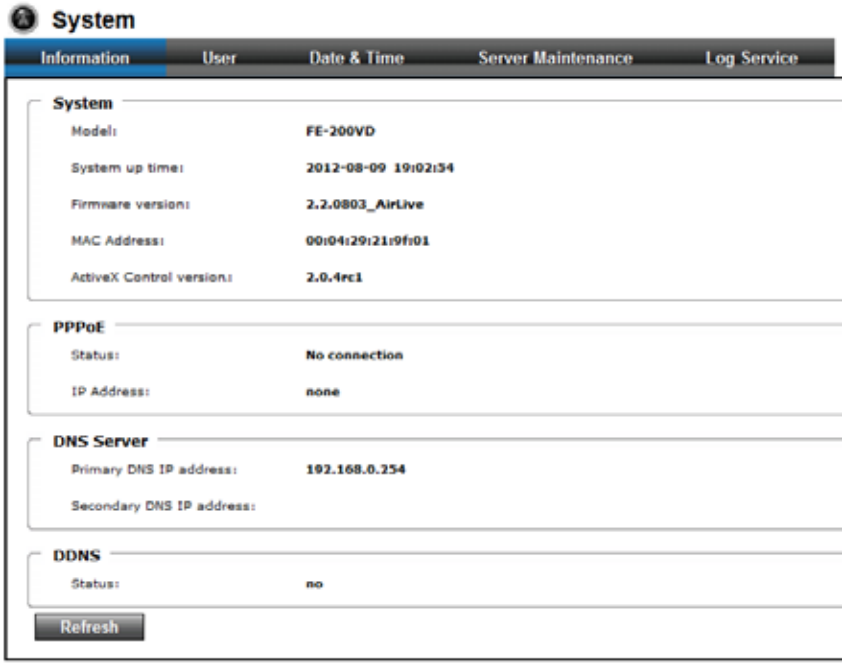
- Host Name:
  Assigned name that will be used for access to the device
- User Name/Password:
  Account authentication for logging to this service.
- Update Time:
  Periodically, the device updates its access info to sever in the configured time.
- Response:
  The device responds the connection info.



4.6 System

4.6.1 Information

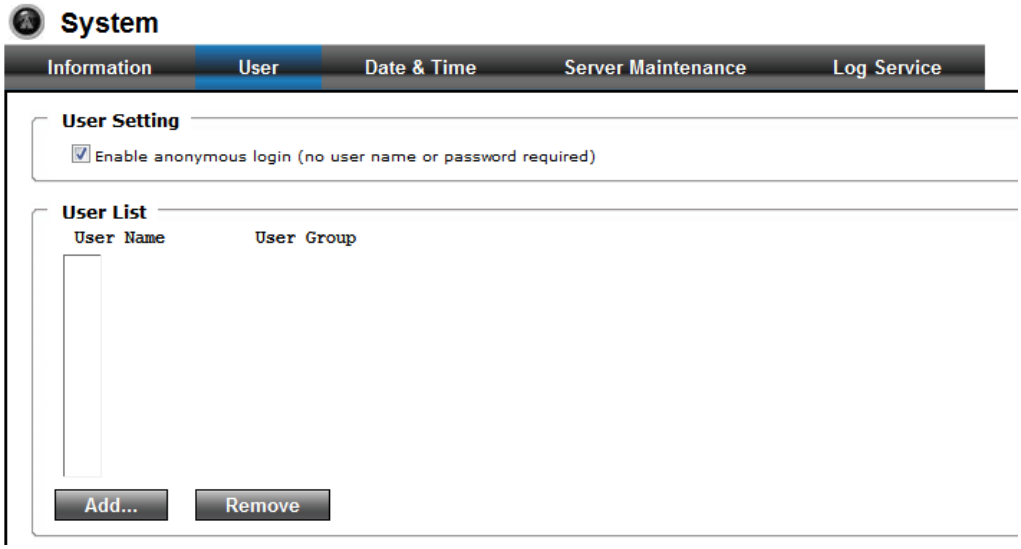
Lists - System and Network configurations.



- Firmware Version:
  This information shows the firmware version of the device.

4.6.2 User

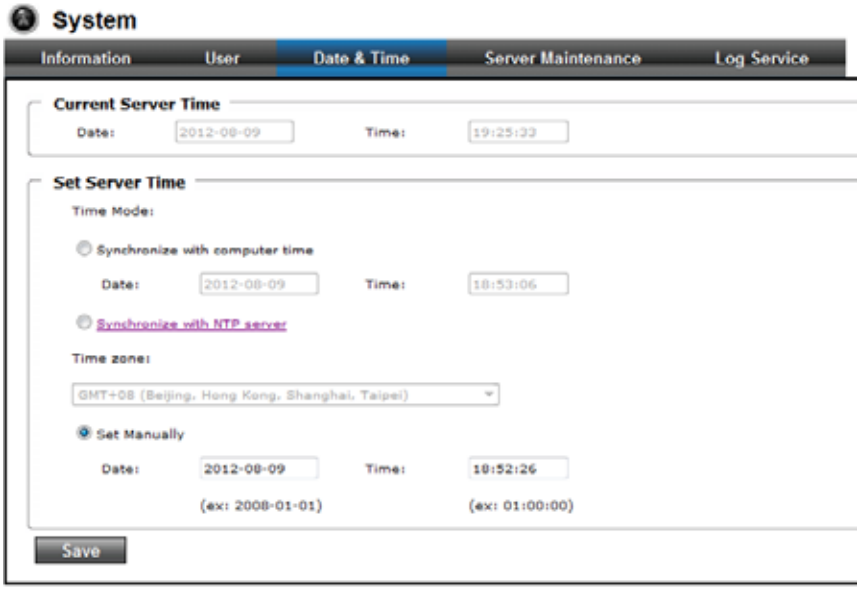
Use this menu to add, update, or remove the usernames and passwords of the Administrator and viewer.



Note: For configuration settings, an Administrator username and password is still required. The default username and password is admin/admin respectively.

4.6.3 Day & Time

You can setup the device or make it synchronized with PC or remote NTP server. Also, you may select your time zone in order to synchronize time locally.



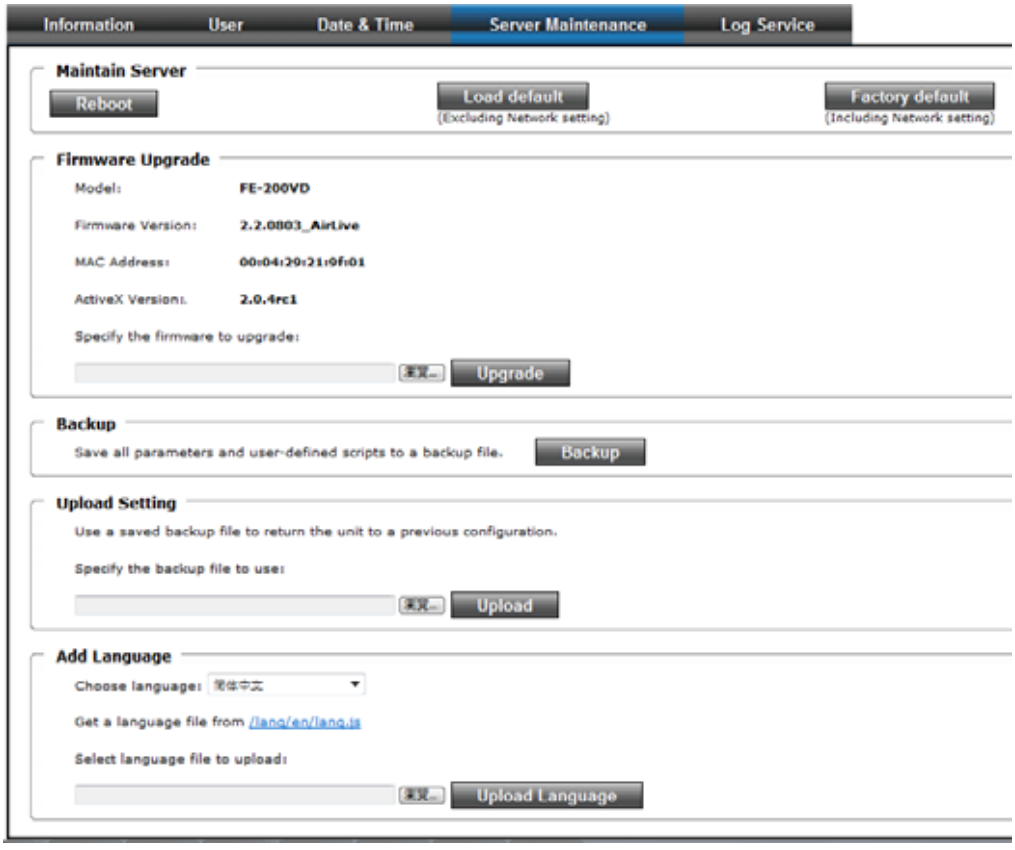
- Current Server Time:
  Displaying the date and time of the device.
- Synchronize with computer time:

Click this option to enable time synchronization with computer time.

- Synchronize with NTP:
  Click this option if you want to synchronize the device's date and time with those of time server called NTP server (Network Time Protocol).
- Manual setting:
  Click this option to set time and date manually.
- Time zone:
  Set the time difference from Greenwich Mean Time in the area where the device is installed.

4.6.4 Server Maintenance

This page provides functions for the system maintenance of the device; Reboot and Load default settings, as well as functionalities of launching upgrade process, backup/restore user settings and language defines.



- Reboot:
  The device is restarted without changing any of the network settings. I t means the IP address of the device will not change after firmware upgrade.

- Load Default (Excluding Network setting):
  The unit is restarted and most current settings are reset to factory default values. This action will not reset the network setting.

- Factory Default (Including Network setting):
  Recall the device hard factory default settings. Note that click this button will reset all device's parameters to the factory settings (including the IP address).

- Firmware Upgrade:
  The device supports new firmware upgrade (the software that controls the operation in the device). Please contact your dealer for the latest version if necessary.

  Download the latest firmware file from our website or your dealer. Unzip this firmware file to binary file and store it into your PC. Then follow the steps as bellows carefully:

  1. Close all other application programs which are not necessary for firmware update.
  2. Make sure that only you access this device while firmware updating.
  3. Disable Motion Detection function.
  4. Click "**Browse**" button. Select the Firmware binary file. (Note that it must make sure that the Firmware only applies to this device, once update, it will be burned into FLASH ROM of system.)
  5. Once the firmware file was selected, click "Firmware Upgrade" button.
  6. The upgrade progress information will be displayed. Once the uploading process completed, the device will reboot the system automatically.
  7. Please wait for timer countdown, and then you can use IPWizard II to search the device again.

Warning!!!

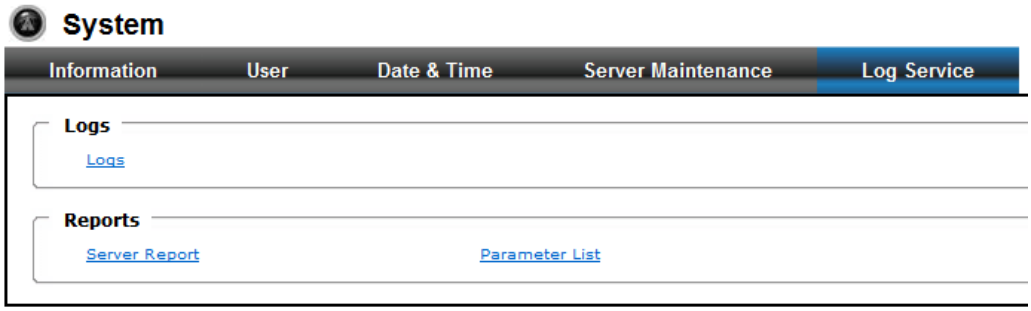
The download firmware procedure can not be interrupted. If the power and/or network connection are broken during the download procedure, it might possibly cause serious damage to the device.
Strongly suggest that **DO NOT** upgrade firmware via Wireless LAN due to high error rate possibly and **DO NOT** allow any other clients to access this unit during updating procedure.
Be aware that you should not turn off the power during updating the firmware and wait for finish message.
Furthermore, the firmware upgrade procedure always is risk and do not try to upgrade new firmware if it's not necessary.

- Backup Setting:
  To take a backup of all of the parameters, click this button. If necessary, it will then be possible to return to the previous settings.

- Upload Setting:
  Click the “Browse” button to locate the saved backup file and then click the “**Upload Setting**” button. The settings will be restored to the previous configuration.

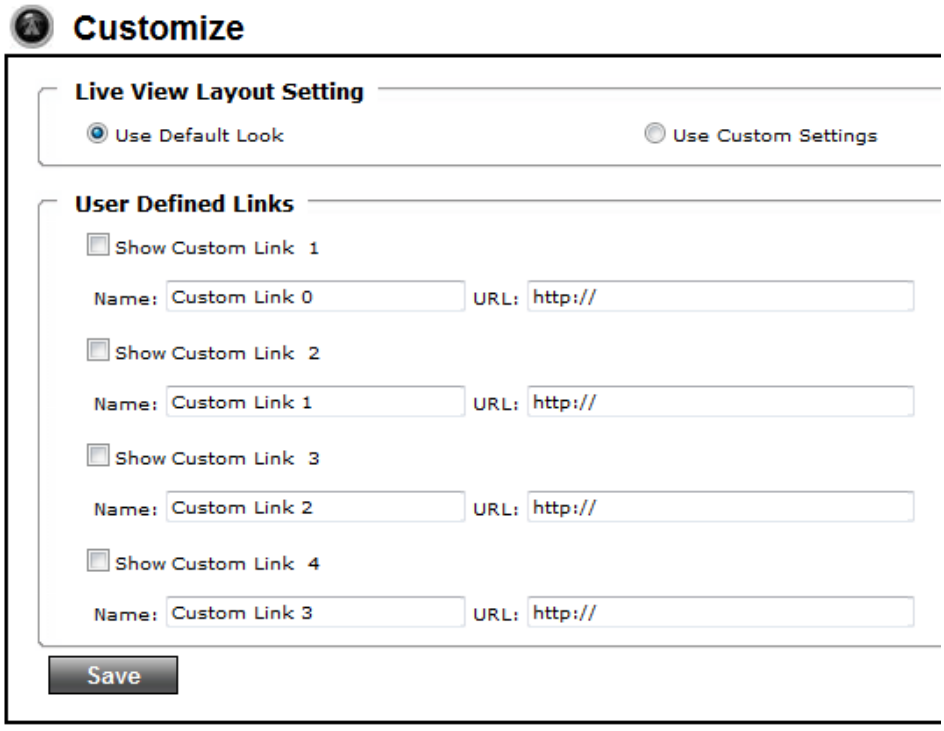
4.6.5 Log Service

Most system operations and / or process will be kept in a log system. The link provides the review of these records.



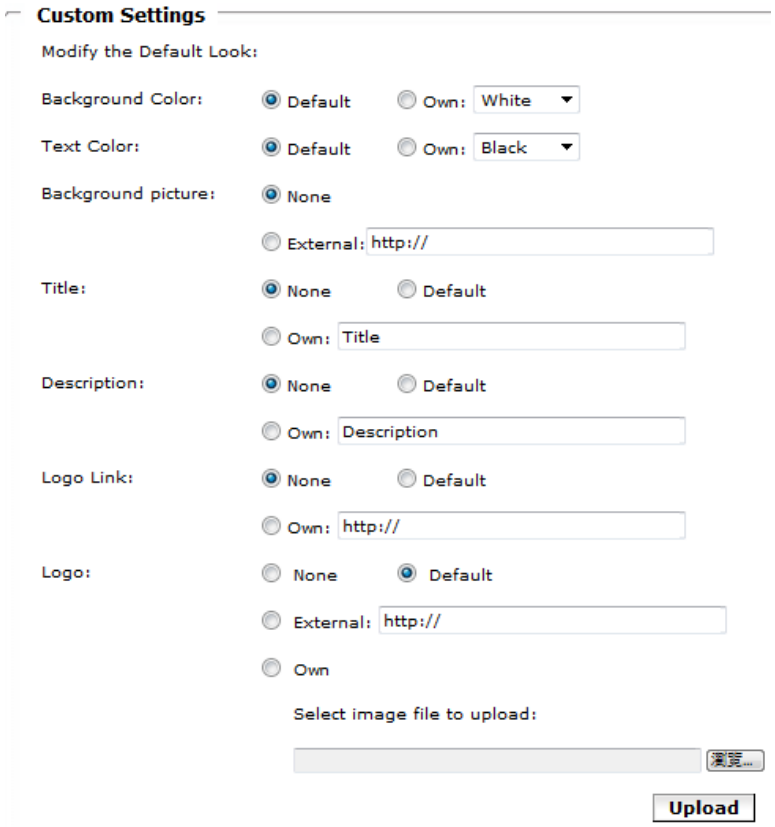
4.7 Customize

This page provides the user features to customize the outlook of the web user interface There are two types of layout settings: Use Default Look or Use Custom Settings.



- Use Default Look:
  The default layout of live/configuration pages.
  Use Defined Links:
  Web link(s) will be presented on the live page when enabled. It can be a link to another IP camera for instance, or other preferred web link.

- Use Custom Settings:
  The allowed modifications are changing of Background / Text Color, Background picture, Title, Description, Logo Link and Logo.



5 Appendix

Appendix A: Restore Factory Default

In some cases, system does not respond to any operation, this process gets the unit back to initial status, so that it can be reconfigurable for up and running again.

To restore factory default, please follow the steps:

1. Unplug the power jack to turn off the camera
2. Insert a pin into the reset hole pressed the reset button and keep it pressed until instructed to release.
3. Plug in the power jack to turn on the camera. The power LED will start flashing in a short while.
4. Release the pin when the LED starts quick flashing. The device should be set back to factory default.

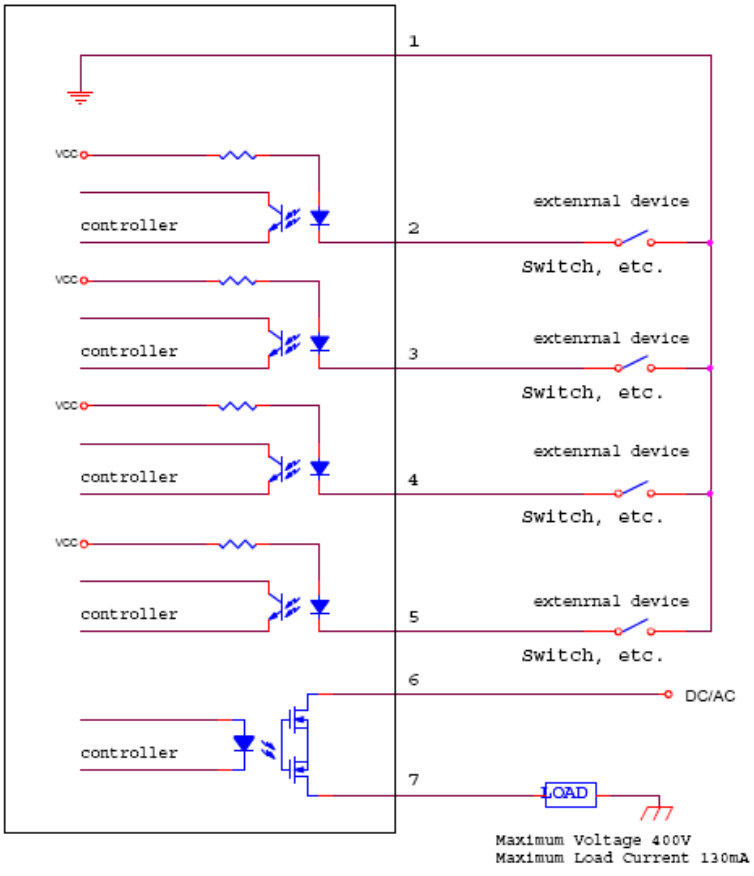
Appendix B: Alarm I/O Connector

This Network Camera provides a general I/O terminal block as below:

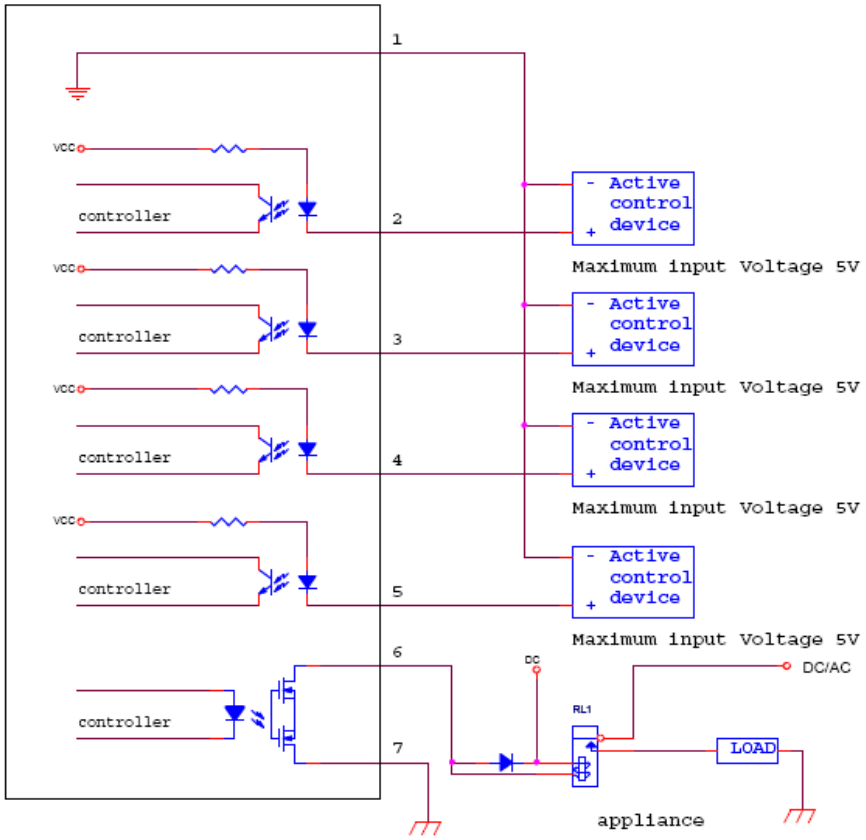
Pin	Function	Description
1	COM	Digital output implementation; Pin2 to COM (Pin1) is a Photo-coupled relay on Normal Open status. External device can directly connect to the terminals. However the current that will go through the 2 nodes must not exceed 130mA. An external "Relay" can also be connected to the terminals as an implementation. In this case, current (or/and voltage) limitation is specified by the external Relay.
2	RELAY-NO	
3	GND	Connect to GND to activate, or leave floating (or unconnected) to deactivate.
4	DIGITAL-IN	
5	GND	PIN with a short wire connecting two revert to factory default settings.
6	DEFAULT	

A user can refer to the schematic below to make a proper connection between I/O connector and external sensor and output device.

- **Explanation of External I/O Circuit Diagram:**



Application 1



Application 2

Appendix C: Troubleshooting & Frequently Asked Questions

Question	Answer or Resolution
Features	
The video and audio codec is adopted in the device.	The device utilizes H.264, MPEG4 and JPEG triple compression to providing high quality images. Where H.264 and MPEG4 are standards for video compression and JPEG is a standard for image compression. The audio codec is defined as AMR for 3GPP and G.711/G.726 for RTSP streaming.
The maximum number of users accesses the device simultaneously.	However, it also depends on the total bandwidth accessed to this device from clients. The maximum data throughput of the device is around 20~25Mbps for UDP mode and 10Mbps for HTTP mode. Therefore,

	the actual number of connected clients is varying by streaming mode, settings of resolution, codec type, frame rate and bandwidth. Obviously, the performance of the each connected client will slow down when many users are logged on.
The device can be used outdoors or not.	The device is not weatherproof. It needs to be equipped with a weatherproof case for outdoors using. However, equipped with a weatherproof case might disable the audio function of the device.
Install this device	
Status LED does not light up.	• Check and confirm that the DC power adaptor, included in packaged, is used. Secure the power connector and re-power it on again. • If the problem is not solved, the device might be faulty. Contact your dealer for further help.
The network cabling is required for the device.	The device uses Category 5 UTP cable allowing 10 and/or 100 Base-T networking.
The device will be installed and work if a firewall exists on the network.	If a firewall exists on the network, port 80 is open for ordinary data communication. The HTTP port and RTSP port need to be opened on the firewall or NAT router.
The username and password for the first time or after factory default reset	Username = **admin** and Password = **airlive**. Note that it's all case sensitivity.
Forgot the username and password	Please refer to FAQ A for Restore Factory Default instruction. Default IP address is 192.168.1.100 Username/Password is admin/airlive
Forgot the IP address of the device.	Check IP address of device by using the IPWizard II program or by UPnP discovery.
IPWizard II program cannot find the device.	• Re-power the device if cannot find the unit within 1 minutes. • Do not connect device over a router. IPWizard II program cannot detect device over a router.

	• If IP address is not assigned to the PC which running IPWizard II program, then IPWizard II program cannot find device. Make sure that IP address is assigned to the PC properly. • Antivirus software on the PC might interfere with the setup program. Disable the firewall of the antivirus software during setting up this device. • Check the firewall setting of your PC or Notebook.
Internet Explorer does not seem to work well with the device	Make sure that your Internet Explorer is version 6.0 or later. If you are experiencing problems, try upgrading to the latest version of Microsoft's Internet Explorer from the Microsoft webpage.
IPWizard II program fails to save the network parameters.	• Network may have trouble. Confirm the parameters and connections of the device.
UPnP NAT Traversal	
Can not work with NAT router	• Maybe NAT router does not support UPnP function. Please check user's manual of router and turn on UPnP function. • Maybe UPnP function of NAT router is not compatible to the IP camera. Please contact your dealer to get the approval routers list.
Some IP cameras are working but others are failed	• Maybe too many IP cameras have been installed on the LAN, and then NAT router is out of resource to support more cameras. You could turn off and on NAT router to clear out of date information inside router.
Access this device	
Cannot access the login page and other web pages of the Network Camera from Internet Explorer	• Maybe the IP Address of the Network Camera is already being used by another device or computer. To confirm this possible problem, disconnect the Network Camera from the network first, and then run the PING utility to check it out. • Maybe due to the network cable. Try correcting your network cable and configuration. Test the network interface by connecting a local computer to the Network Camera via a crossover cable. • Make sure the Internet connection and setting is ok. • Make sure enter the IP address of Internet Explorer is correct. If the Network Camera has a dynamic

	address, it may have changed since you last checked it. • Network congestion may prevent the web page appearing quickly. Wait for a while. The IP address and Subnet Mask of the PC and Network Camera must be in the same class of the private IP address on the LAN. • Make sure the http port used by the Network Camera, default=80, is forward to the Network Camera's private IP address. • The port number assigned in your Network Camera might not be available via Internet. Check your ISP for available port. • The proxy server may prevent you from connecting directly to the Network Camera, set up not to use the proxy server. • Confirm that Default Gateway address is correct. • The router needs Port Forwarding feature. Refer to your router's manual for details. • Packet Filtering of the router may prohibit access from an external network. Refer to your router's manual for details. • Access the Network Camera from the Internet with the global IP address of the router and port number of Network Camera. • Some routers reject the global IP address to access the Network Camera on the same LAN. Access with the private IP address and correct port number of Network Camera. • When you use DDNS, you need to set Default Gateway and DNS server address. • If it's not working after above procedure, reset Network Camera to default setting and installed it again. • If the problem is not solved, the Network Camera might be faulty. Contact your dealer for further help.
Image or video does not appear in the main page.	• The first time the PC connects to Network Camera, a pop-up **Security Warning window** will appear to download ActiveX Controls. When using Windows XP, or Vista, log on with an appropriate account that is authorized to install applications.

	• Network congestion may prevent the Image screen from appearing quickly. You may choose lower resolution to reduce the required bandwidth.
Check the device's ActiveX is installed on your computer	Go to C:\Windows\Downloaded Program Files and check to see if there is an entry for the file "**IPCamera Control**". The status column should show "Installed". If the file is not listed, make sure your Security Settings in Internet Explorer are configured properly and then try reloading the device's home page. Most likely, the ActiveX control did not download and install correctly. Check your Internet Explorer security settings and then close and restart Internet Explorer. Try to browse and log in again.
Internet Explorer displays the following message: "Your current security settings prohibit downloading ActiveX controls".	Setup the IE security settings or configure the individual settings to allow downloading and scripting of ActiveX controls.
The device work locally but not externally.	• Might be caused from the firewall protection. Check the Internet firewall with your system or network administrator. The firewall may need to have some settings changed in order for the device to be accessible outside your LAN. • Make sure that the device isn't conflicting with any other web server running on your LAN. • Check the configuration of the router settings allow the device to be accessed outside your local LAN. • Check the bandwidth of Internet connection. If the Internet bandwidth is lower than target bit rate, the video streaming will not work correctly.
The unreadable characters are displayed.	Use the operating system of the selected language. Set the Encoding or the Character Set of the selected language on the Internet Explorer.
Frame rate is slower than the setting.	• The traffic of the network and the object of the image affect the frame rate. The network congestion causes frame rate slower than the setting. • Check the bandwidth of Internet connection. If the

	Internet bandwidth is lower than target bit rate, the video streaming will not work correctly. • Ethernet switching hub can smooth the frame rate.
Blank screen or very slow video when audio is enabled.	• Your connection to the device does not have enough bandwidth to support a higher frame rate for the streamed image size. Try reducing the video streaming size to 160x120 or 320x240 and/or disabling audio. • Audio will consume 32 kbps. Disable audio to improve video. Your Internet connection may not have enough bandwidth to support streaming audio from the device.
Image Transfer on e-mail or FTP does not work.	• Default Gateway and DNS server address should be set up correctly. • If FTP does not work properly, ask your ISP or network administrator about the transferring mode of FTP server.
Pan/Tilt does not work. (including Click to Center and Preset Positioning)	• Click **[Refresh]** on the Internet Explorer when the communication stops with the device. The image will refresh. • Other clients may be operating Pan/Tilt. • Pan/Tilt operation has reached the end of corner.
Pan/Tilt does not work smoothly.	There may be a slight delay when you are using the Pan/Tilt feature in conjunction with streaming audio and video. If you find that there is a significant delay while panning or tilting the camera, try disabling the audio streaming and/or reducing the video streaming size.
Video quality of the device	
The focus on the Camera is bad.	• The lens is dirty or dust is attached. Fingerprints, dust, stain, etc. on the lens can degrade the image quality.
The color of the image is poor or strange.	• Adjust White Balance. • To insure the images you are viewing are the best they can be, set the Display property setting (color quality) to 16bit at least and 24 bit or higher if possible within your computer. •The configuration on the device image display is incorrect. You need to adjust the image related parameters such as brightness, contrast, hue and sharpness properly.
Image flickers.	• Wrong power line frequency makes images flicker.

	Make sure the 50 or 60Hz format of your device. • If the object is dark, the image will flicker. Make the condition around the Camera brighter.
Noisy images occur.	The video images might be noisy if the device is located in a very low light environment. Make the condition around the camera brighter or turn the White-light LED on.
Miscellaneous	
Can not play the recorded ASF file	Have installed Microsoft®'s DirectX 9.0 or later and use the Windows Media Player 11.0 or later to play the AVI filed recorded by the Device.

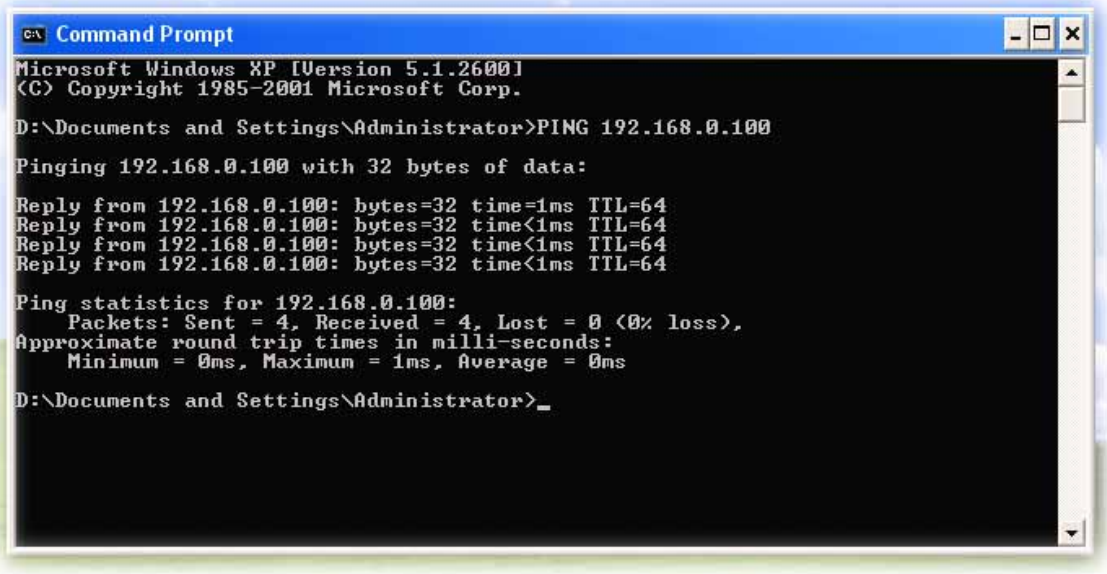
Appendix D: PING IP Address

The PING (stands for Packet Internet Groper) command is used to detect whether a specific IP address is accessible by sending a packet to the specific address and waiting for a reply. It's also a very useful tool to confirm the device installed or if the IP address conflicts with any other devices over the network.

If you want to make sure the IP address of the device, utilize the PING command as follows:

- Start a DOS window.
- Type ping x.x.x.x, where x.x.x.x is the IP address of the device.

The replies, as illustrated below, will provide an explanation to the problem.



If you want to detect any other devices conflicts with the IP address of Network Camera, also can utilize the PING command but you must disconnect the device from the network first.

Appendix E: Bandwidth Estimation

The frame rate of video transmitted from the device depends on connection bandwidth between client and server, video resolution, codec type, and quality setting of server. Here is a guideline to help you roughly estimate the bandwidth requirements form your device.

The required bandwidth depends on content of video source. The slow motion video will produce smaller bit rate generally and fast motion will produce higher bit rate vice versa. Actual results generated by the device may be varying.

Image Resolution	Average range of data sizes for JPEG mode	Average bit rate for MPEG4 mode	Average bit rate for H.264 mode
160 x 120 (QQVGA)	3 ~ 6k byte per frame	64kbps~256kbps @ 30fps	32kbps~192kbps @ 30fps
320 x 240 (QVGA)	8 ~ 20k byte per frame	256kbps~768kbps @ 30fps	192kbps~512kbps @ 30fps
640 x 480 (VGA)	20 ~ 50K byte per frame	512kbps~2048kbps @ 30fps	384kbps~1536kbps @ 30fps
1280x1024 (SXGA)	100 ~ 200k byte per frame	NA	512kbps~3076kbps @ 15fps

Note: Audio streaming also takes bandwidth around 32kbps. Some xDSL/Cable modem upload speeds could not even reach up to 128 kbps. Thus, you may not be able to receive good quality video while also streaming audio on a 128 kbps or lower connection. Even though the upload speed is more than 128kbps, for optimal video performance, disabling audio streaming will get better video performance.

Appendix F: Specifications

Camera	
Model Name	FE-200DM
Image Device	2 Mega-pixel image sensor
Effective Pixels	1600 x 1200 pixels
Lens	Fish-Eye Lens Focal Length: F2.0 /f = 1.25mm FOV=185°(D/H/V)
IP Module	
Video	
Video Encoder	H.264, Motion JPEG
Frame Rate	4:3 Res. @ 15 FPS; 16:9 Res. @ 30 FPS
Image Setting	Brightness, Sharpness, Saturation, Exposure, White balance control
Streaming	HTTP, TCP/IP, IPv4, UDP, SMTP, FTP, DHCP, DDNS, NTP, DNS, ARP, RTSP, RTP, Samba Clinet, UPnP
Audio	
Audio Encoder	RTSP: G.711 64kbps
Audio Streaming	One-way or Two-way
Microphone	Built-in Microphone x1 and External Audio-in port x1
Audio Output	Built-in Speaker x1 and External Audio-out port x1
Network	
Supported Protocols	HTTP, TCP/IP, IPv4, UDP, SMTP, FTP, DHCP, DDNS, NTP, DNS, ARP, RTSP, RTP, Samba, UPnP
Security	Password protection, user access log
Ethernet	10/100M auto negotiation
System Integration	
Application Programming Interface	Open API for software integration SDK
Alarm Triggers	Intelligent video motion detection and external input
Motion Detection	Up to 10 motion detection areas with included or excluded options
Alarm Events	File upload via FTP ,SD Card or email Notification via email, HTTP, External output activation
General	
RAM	128MB
ROM	2GB
Power Supply	12V DC external power adapter
PoE	IEEE 802.3af

Power Consumption	5W
IP Level	None
Vandal proof	None
Connectors	1 x RJ-45 10BaseT/100BaseTX 1 x DC power jack 1 x Terminal Connector 1 x Audio Line out and 1 x Audio Line in 1x Micro SD Slot 1 x DI and 1 x DO
Indication LED	Green and orange LEDs
Mechanical IR-cut	Yes
Operating Temperature	0°C to 50°C (32°F to 122°F)
Operating Humidity	20% ~ 80% (non-condensing)
Dimension	HxWxD:141x141x115 (φ)mm
Viewing System	
OS	Windows® XP, Vista, 7
Browser	IE 6.0 or later, Firefox 2.0 or later, Safari
Cell Phone	With 3GPP player
Video Player	VLC, Quick Time, Real Player, Core Player
Software	
Search & Installation	IPWizard II
Bundled NVR Program	CamPro Express 64, CamPro Professional

Appendix G: Configure Port Forwarding Manually

The device can be used with a router. If the device wants to be accessed from the WAN, its IP address needs to be setup as fixed IP address, also the port forwarding or Virtual Server function of router needs to be setup. This device supports UPnP traversal function. Therefore, user could use this feature to configure port forwarding of NAT router first. However, if user needs to configure port forwarding manually, please follow the steps as below:

Manually installing the device with a router on your network is an easy 3–step procedure as following:

(1) Assign a local/fixed IP address to your device
(2) Access the Router with Your Web browser
(3) Open/Configure Virtual Server Ports of Your Router

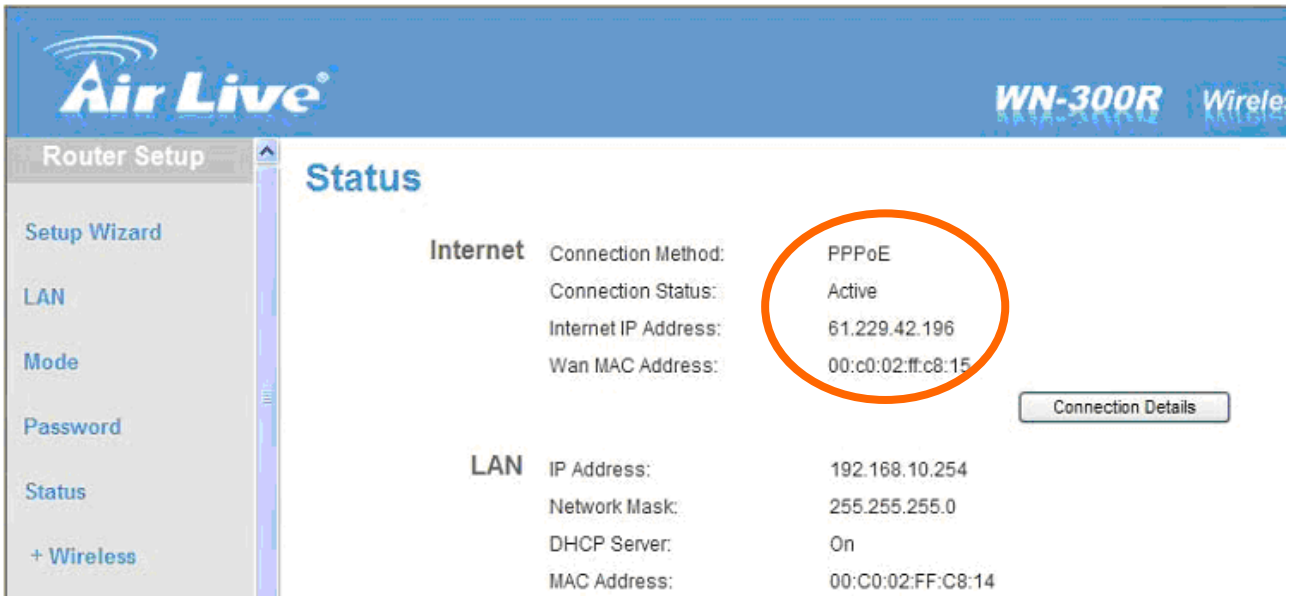
(1) Assign a local/fixed IP address to your device

The device must be assigned a local and fixed IP Address that allows it to be recognized by the router. Manually setup the device with a fixed IP address, for example, 192.168.0.100.

(2) Access the Router with Your Web browser

The following steps generally apply to any router that you have on your network. The D-Link DI-624 is used as an example to clarify the configuration process. Configure the initial settings of the router by following the steps outlined in the router's **Quick Installation Guide.**

If you have cable or DSL service, you will most likely have a dynamically assigned WAN IP Address. 'Dynamic' means that your router's WAN IP address can change from time to time depending on your ISP. A dynamic WAN IP Address identifies your router on the public network and allows it to access the Internet. To find out what your router's WAN IP Address is, go to the **Status** screen on your router and locate the WAN information for your router. As shown on the following page the WAN IP Address will be listed. This will be the address that you will need to type in your web browser to view your camera over the Internet. Be sure to uncheck the **Reset IP address at next boot** button at the top of the screen after modifying the IP address. Failure to do so will reset the IP address when you restart your computer.



Your WAN IP Address will be listed here.

Note: Because a dynamic WAN IP can change from time to time depending on your ISP, you may want to obtain a Static IP address from your ISP. A Static IP address is a fixed IP address that will not change over time and will be more convenient for you to use to access your camera from a remote location. If you could not get a Static IP address from your ISP, the DIPS™ or DDNS is a solution alternatively. Please refer to Appendix G for more information.

(3) Open/set Virtual Server Ports to enable remote image viewing

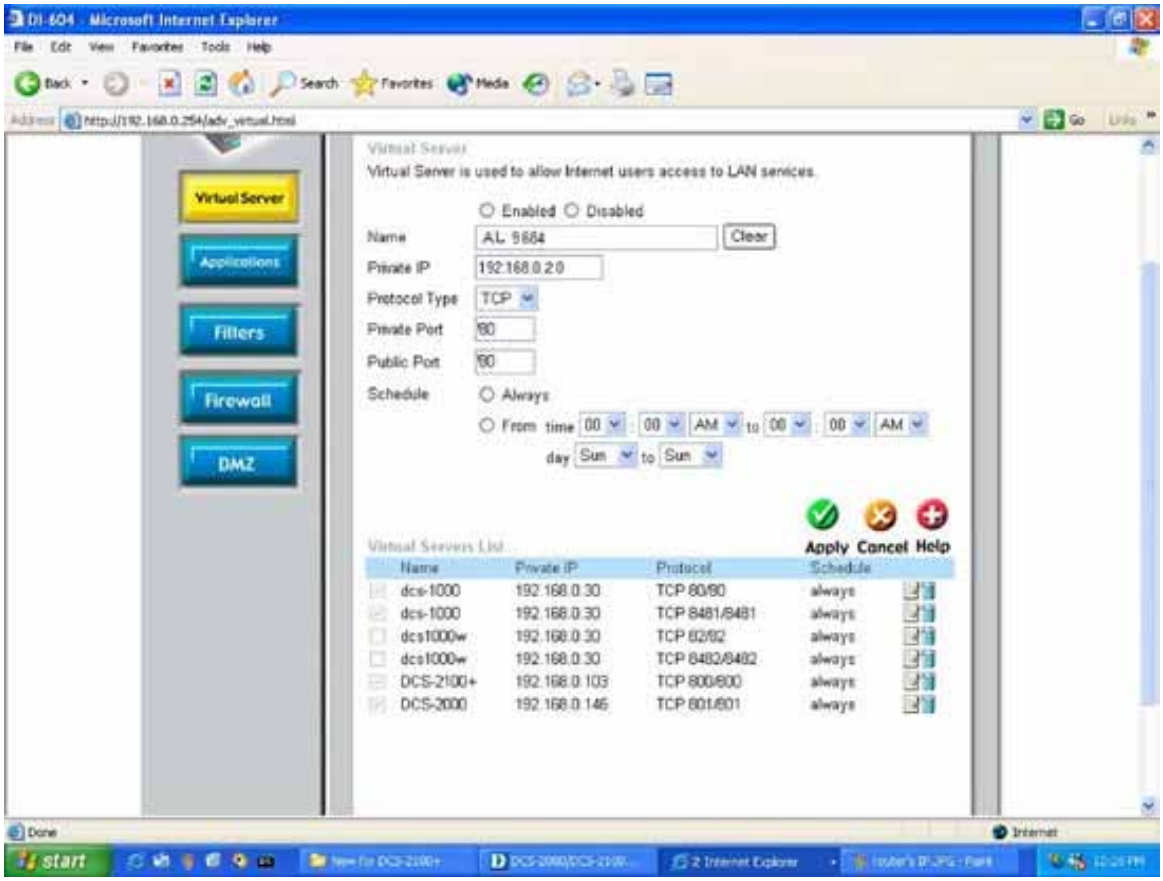
The firewall security features built into the router and most routers prevent users from accessing the video from the device over the Internet. The router connects to the Internet over a series of numbered ports. The ports normally used by the device are blocked from access over the Internet. Therefore, these ports need to be made accessible over the Internet. This is accomplished using the Virtual Server function on the router. The **Virtual Server** ports used by the camera must be opened through the router for remote access to your camera. Virtual Server is accessed by clicking on the **Advanced** tab of the router screen.

Follow these steps to configure your router's Virtual Server settings

- Click **Enabled**.
- Enter a unique name for each entry.
- Select **Both** under **Protocol Type** (**TCP** and **UDP**)
- Enter your camera's local IP Address (e.g., **192.168.0.100**, for example) in the **Private IP** field.
- If you are using the default camera port settings, enter **80** into the **Public** and **Private Port** section, click **Apply**.
- **Scheduling** should be set to **Always** so that the camera images can be accessed at any time.

A check mark appearing before the entry name will indicate that the ports are enabled.

Important: Some ISPs block access to port 80. Be sure to check with your ISP so that you can open the appropriate ports accordingly. If your ISP does not pass traffic on port 80, you will need to change the port the camera uses from 80 to something else, such as 8080. Not all routers are the same, so refer to your user manual for specific instructions on how to open ports.



Enter valid ports in the **Virtual Server** section of your router. Please make sure to check the box on this line to enable settings. Then the device can be access from WAN by the router's WAN IP Address.

By now, you have finished your entire PC configuration for this device.

Appendix H: DDNS Application

- **Preface**

If you have a Cable modem or xDSL, this is a great way to host your own Networked Device or other TCP/IP Service. Get your own domain like www.yourname.com, www.yourname.com.tw etc. (Note: This domain must be registered with Internic via registration authorities such as Network Solutions, DirectNIC, Register.com etc). Your domain name's dynamic IP address is automatically tracked by a DDNS server.
Host your own Networked Device and much more no matter what your computer's IP address may be and even if you have dialup, DSL or cable modem internet connection where your computer's IP address changes all the time!! DDNS service supports all top level domain names including but not limited to .com, .net, .org, .to, .uk etc.

- **Ethernet Network Environment**

Normally, DDNS service is only necessary for the users that could only obtain dynamic IP addresses. As to the users that could obtain the static valid IP address, they do not usually have to apply the DDNS service. Before we decide if DDNS is necessary for the users, we have to check what kind of Ethernet network environment we have to install our Networked Device on.

(1) Environment of Fixed Valid IP Network

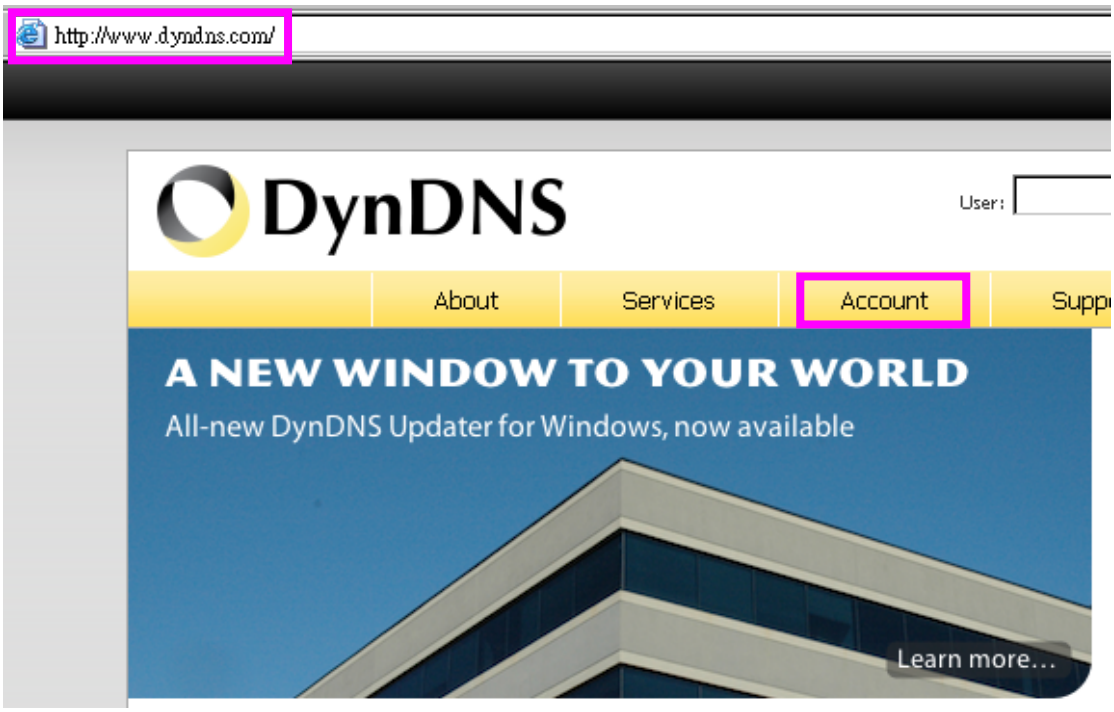
If users could obtain valid IP addresses, they could save the effort to apply DDNS service. Because the IP address in this environment is fixed, users could input the IP address or domain name of demo site directly in the IE browser.

(2) Environment of Dynamic IP Network

If users is under an environment of dynamic IP network (Dial-up xDSL), they have to apply a domain name in advance. Then apply DDNS service. Finally setup the necessary information of DDNS and PPPoE of the Networked Device in order to let the outside administrator be able to access through internet.

- **Application Steps—DDNS & Domain Name**

(1). Visit the following web site: http://www.dyndns.org/
(2). Click "**Account**"



(3). After the columns show up at the left side, click "**Create Account**".

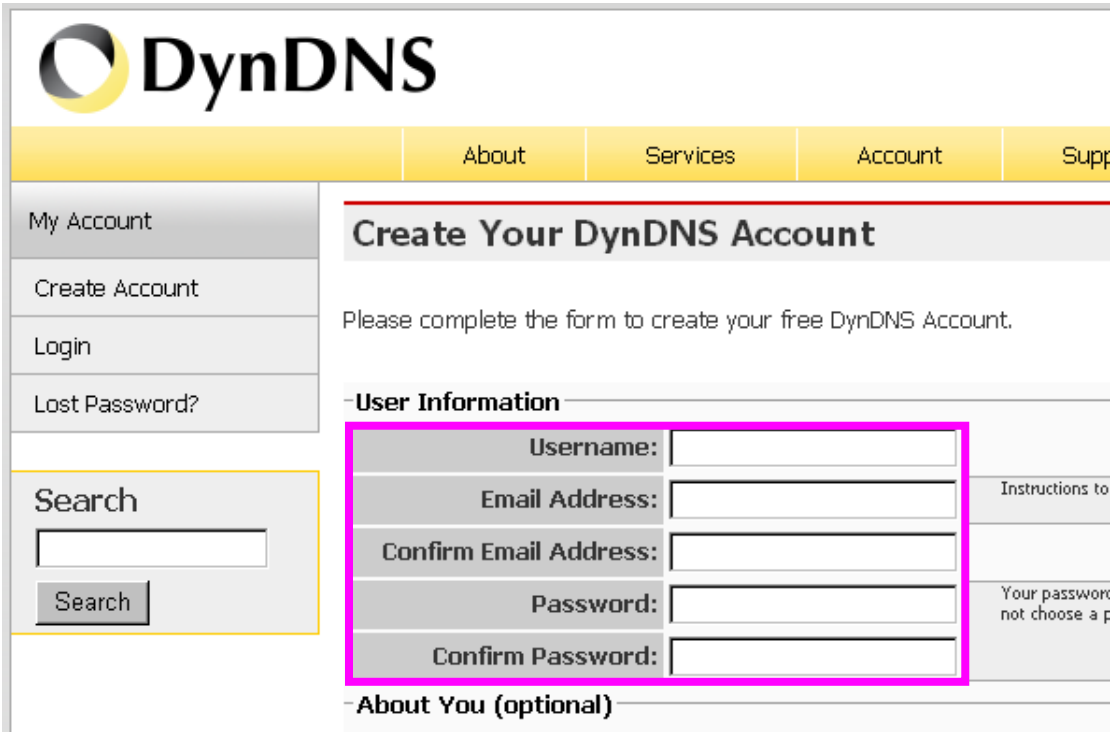
(4). Fill the application agreement and necessary information.

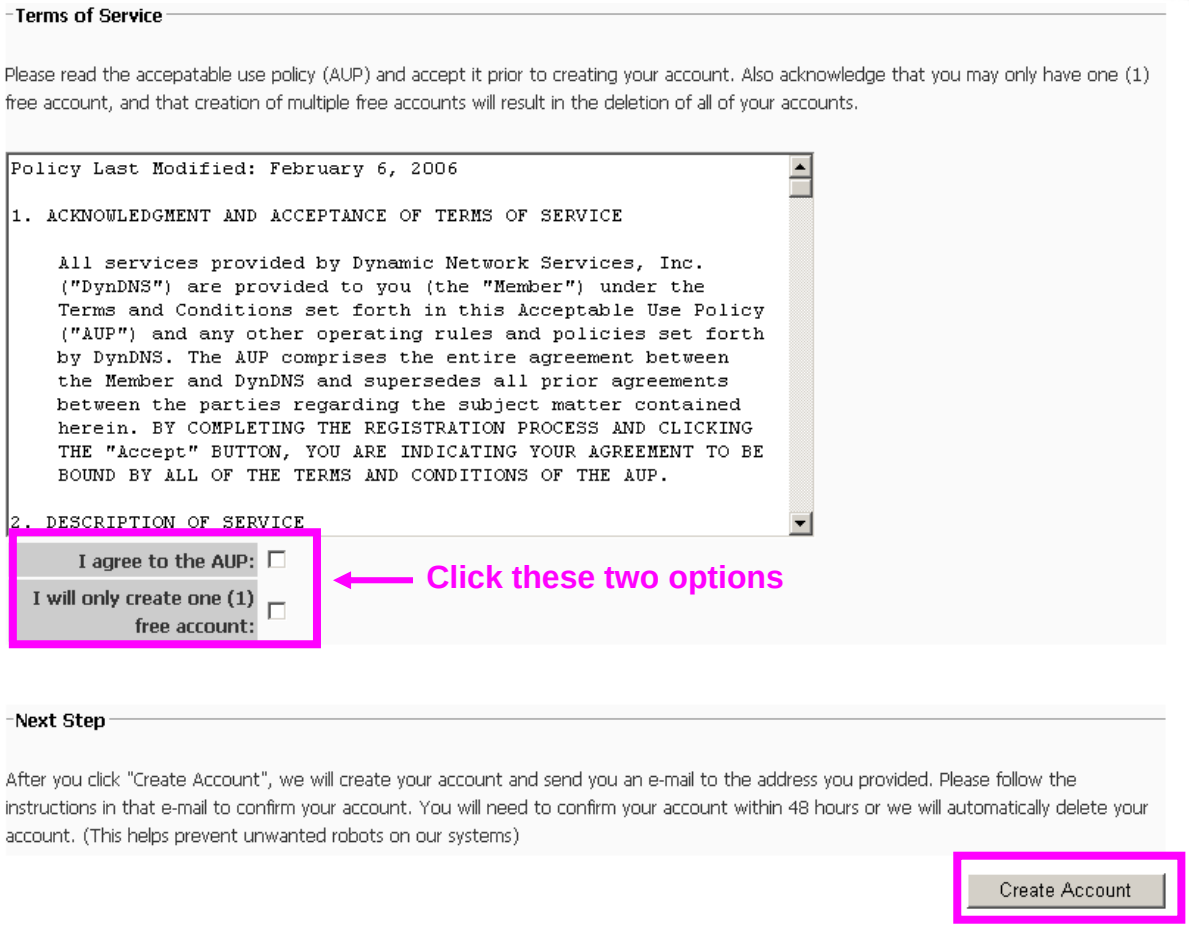
a. Username

b. E-mail address and confirmation

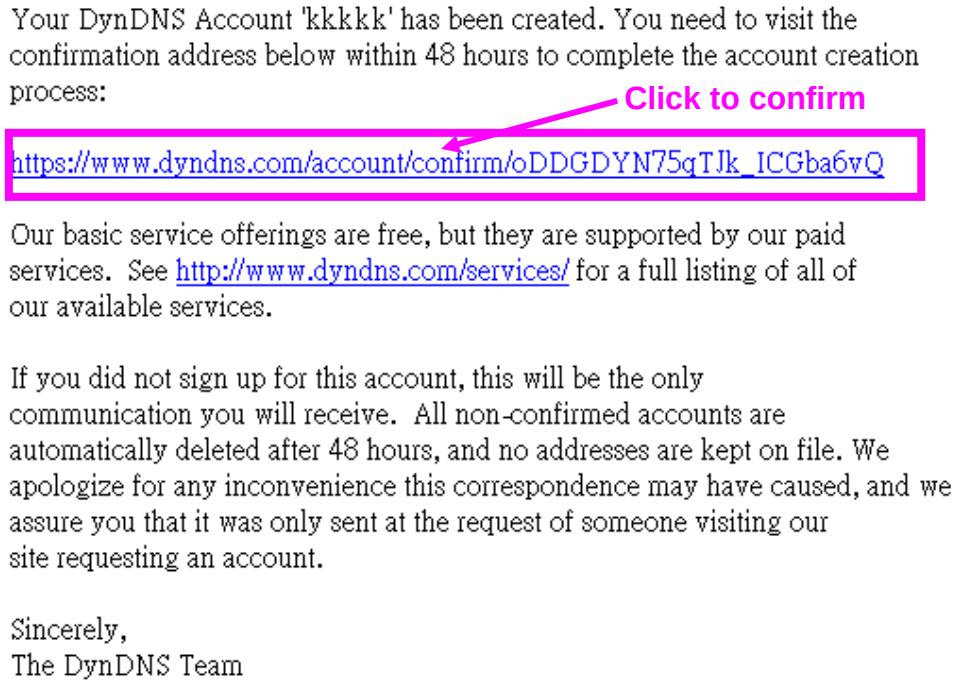
c. Password and confirmation

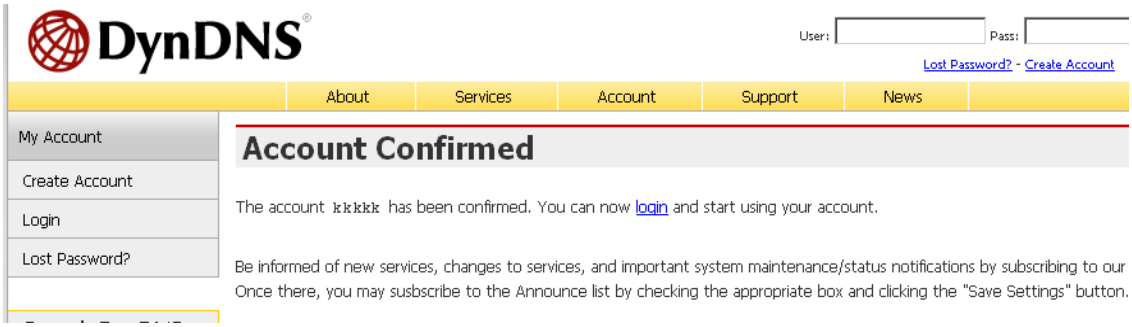
d. Submit all the input information and finish creating an account



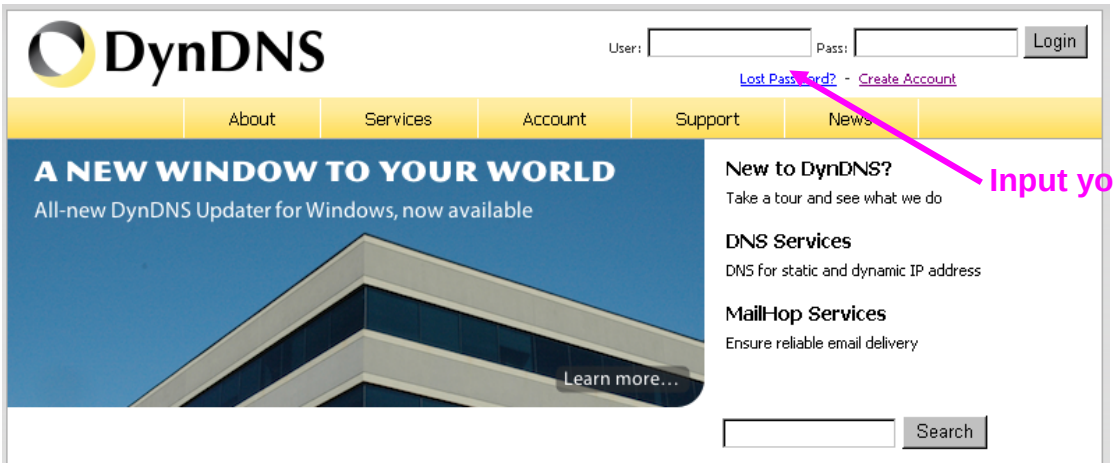


(5). Check your e-mail mailbox. There will be an e-mail with a title “Your DynDNS Account Information“. Click the hyperlink address to confirm the DDNS service that you just applied. Then DDNS you applied activated.



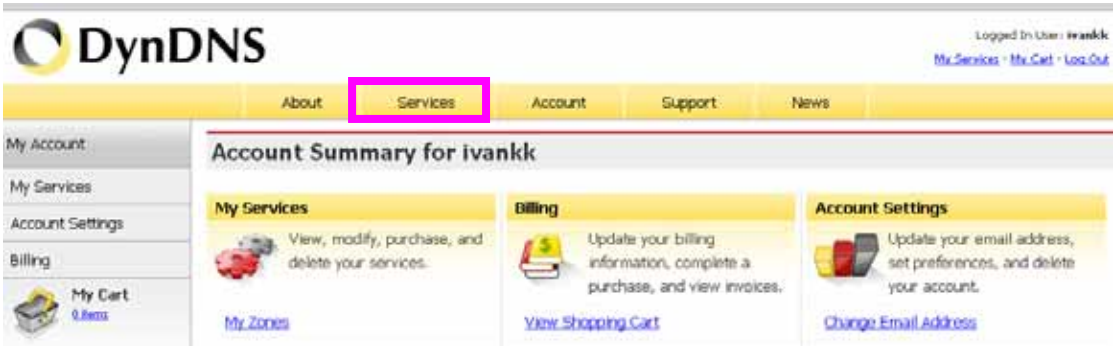


(6). Enter the web page http://www.dyndns.org/ again. Input your username and password that you just applied to login administration interface of DDNS server.

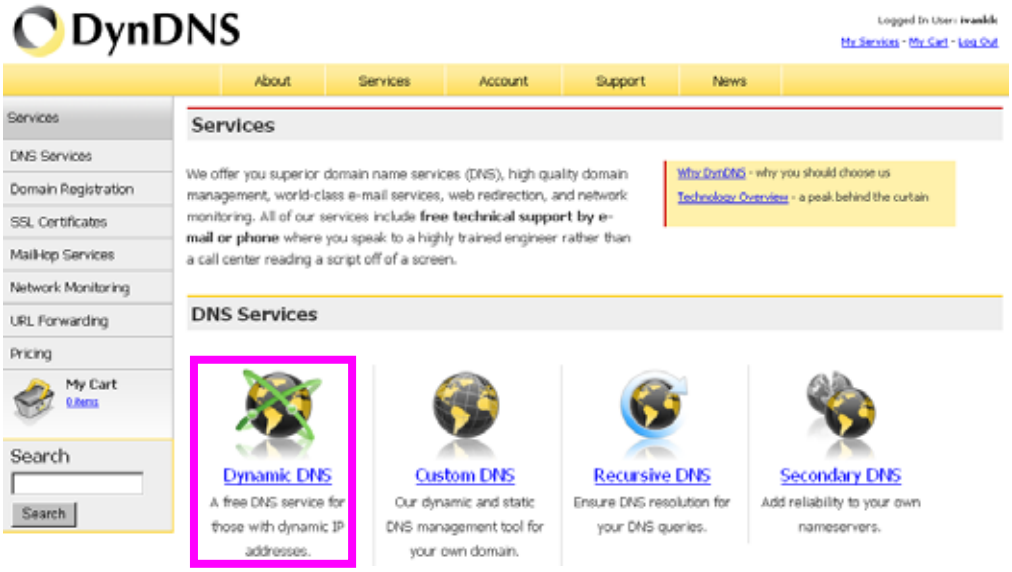


(7). If the correct username and password are input, you can see the following picture at the top-right of the login page.

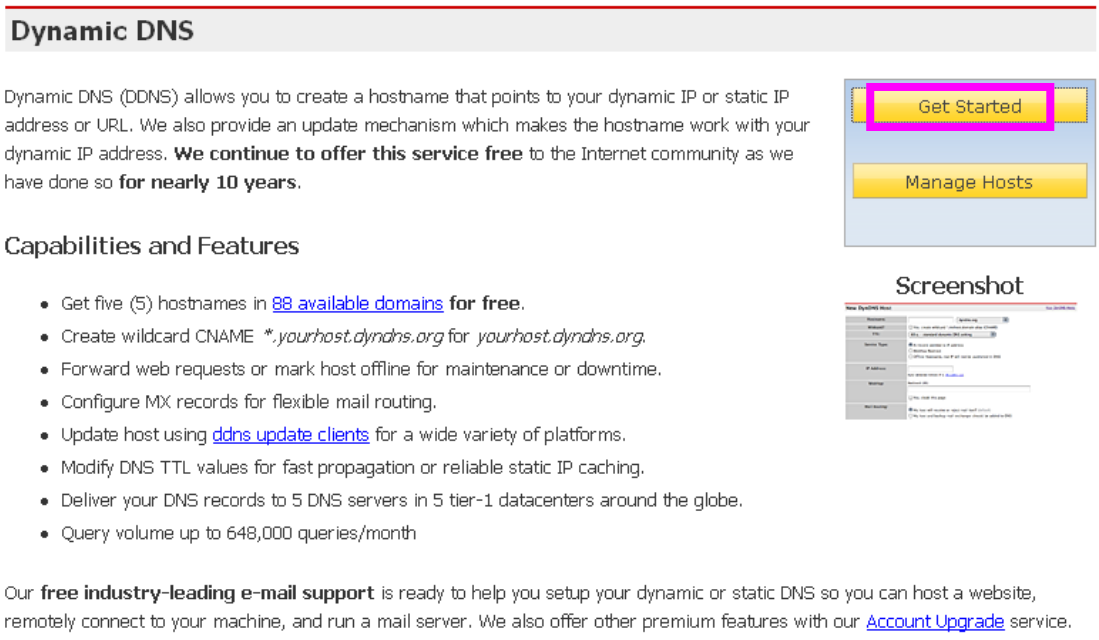
(8). Click the "Services".



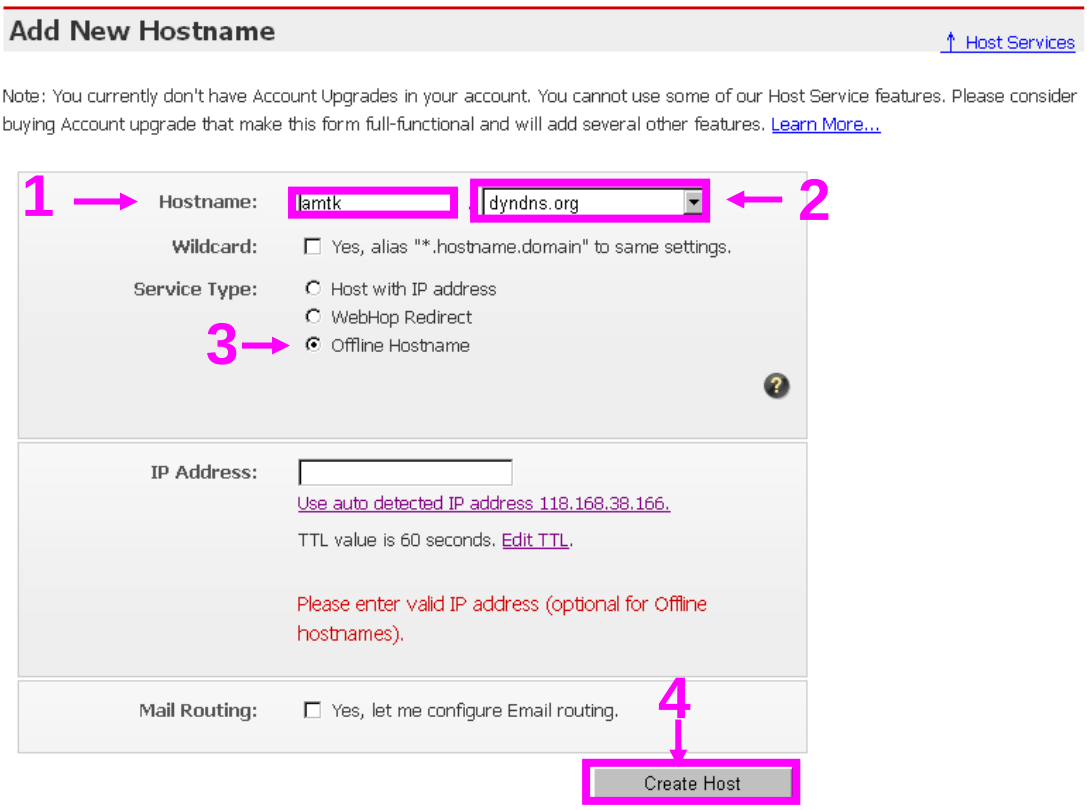
(9). Click the “Dynamic DNS”.



(10). Click the “Get Started”.



(11). We could create a domain name without any charge at this step. First, we input the host name. (Pink No.1) Then we pick a domain that is easy to remember. (Pink No.2) The 3rd step is to click “Offline Hostname” from Service Type. (Pink No.3) Finally, click the “Create Host” to submit the domain name information and finish DDNS application. (Pink No.4)



- **Setup the DDNS and PPPoE of Networked Device**

At last, users have to enter the web page of Networked Device and setup the necessary information of DDNS and PPPoE after the application of DDNS service. Please check the user manual to access the DDNS and PPPoE pages. After saving the modification, restart the device. Then the external users could browse the Networked Device by the input of their domain name.

Appendix I: Power Line Frequency

COUNTRY	VOLTAGE	FREQUENCY	COMMENTS
Argentina	220V	50 Hz	*Neutral and line wires are reversed from that used in Australia and elsewhere.
Australia	230V*	50 Hz	*Outlets typically controlled by adjacent switch. Though nominal voltage has been officially changed to 230V, 240V is within tolerances and commonly found.

Austria	230V	50 Hz	
Brazil	110/220V*	60 Hz	*127V found in states of Bahia, Paran? (including Curitiba), Rio de Janeiro, S 綾 Paulo and Minas Gerais (though 220V may be found in some hotels). Other areas are 220V only, with the exception of Fortaleza (240V).
Canada	120V	60 Hz	
China, People's Republic of	220V	50 Hz	
Finland	230V	50 Hz	
France	230V	50 Hz	
Germany	230V	50 Hz	
Hong Kong	220V*	50 Hz	
India	230V	50 Hz	
Italy	230V	50 Hz	
Japan	100V	50/60 Hz*	*Eastern Japan 50 Hz (Tokyo, Kawasaki, Sapporo, Yokohoma, and Sendai); Western Japan 60 Hz (Osaka, Kyoto, Nagoya, Hiroshima)
Malaysia	240V	50 Hz	
Netherlands	230V	50 Hz	
Portugal	230V	50 Hz	
Spain	230V	50 Hz	
Sweden	230V	50 Hz	
Switzerland	230V	50 Hz	
Taiwan	110V	60 Hz	
Thailand	220V	50 Hz	
United Kingdom	230V*	50 Hz	*Outlets typically controlled by adjacent switch. Though nominal voltage has been officially changed to 230V, 240V is within tolerances and commonly

			found.
United States of America	120V	60 Hz	

Appendix J: 3GPP

To use the 3GPP function, in addition to previous section, you might need more information or configuration to make this function work.

Note that to use the 3GPP function, it strongly recommends to install the Networked Device with a public and fixed IP address without any firewall protection.

RTSP Port:

Port 554 is the default for RTSP service. However, sometimes, some service providers change this port number for some reasons. If so, user needs to change this port accordingly.

Dialing procedure:

1. Choose a verified player (PacketVideo or Realplayer currently)
2. Use the following URL to access:
   rtsp://host/mpeg4/media.3gp

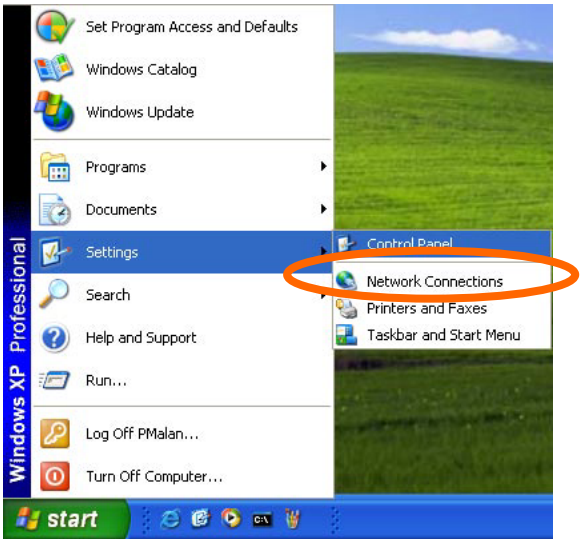
Where host is the host name or IP address of the camera.

Compatible 3G mobile phone:

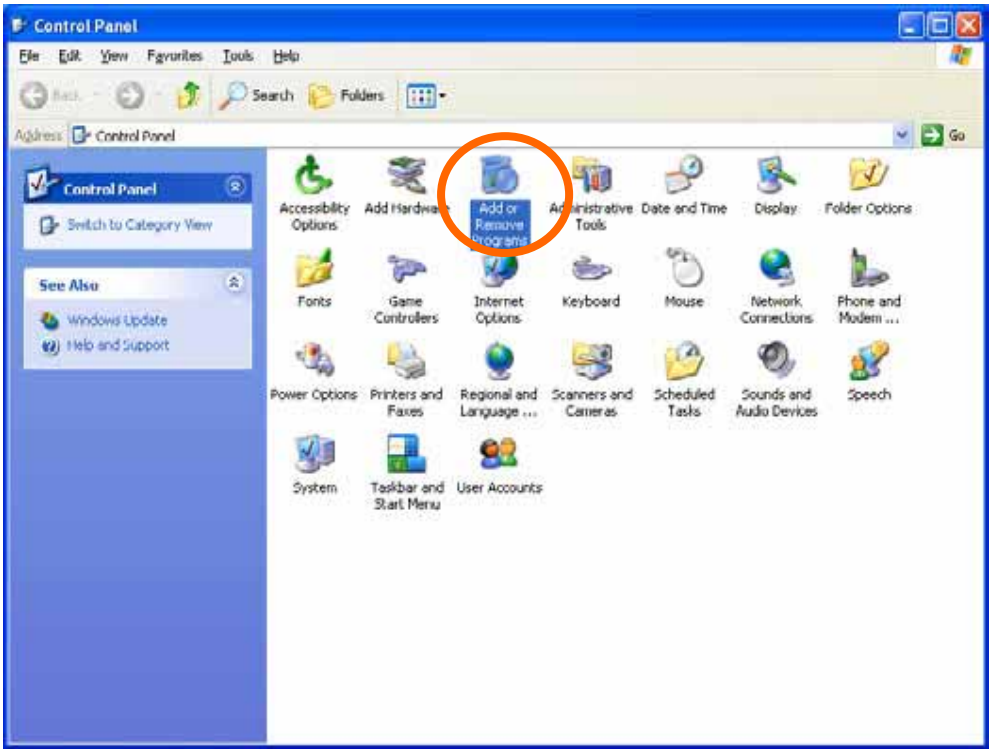
Please contact your dealer to get the approved list of compatible 3G phone.

Appendix K: Enable UPnP of Windows XP

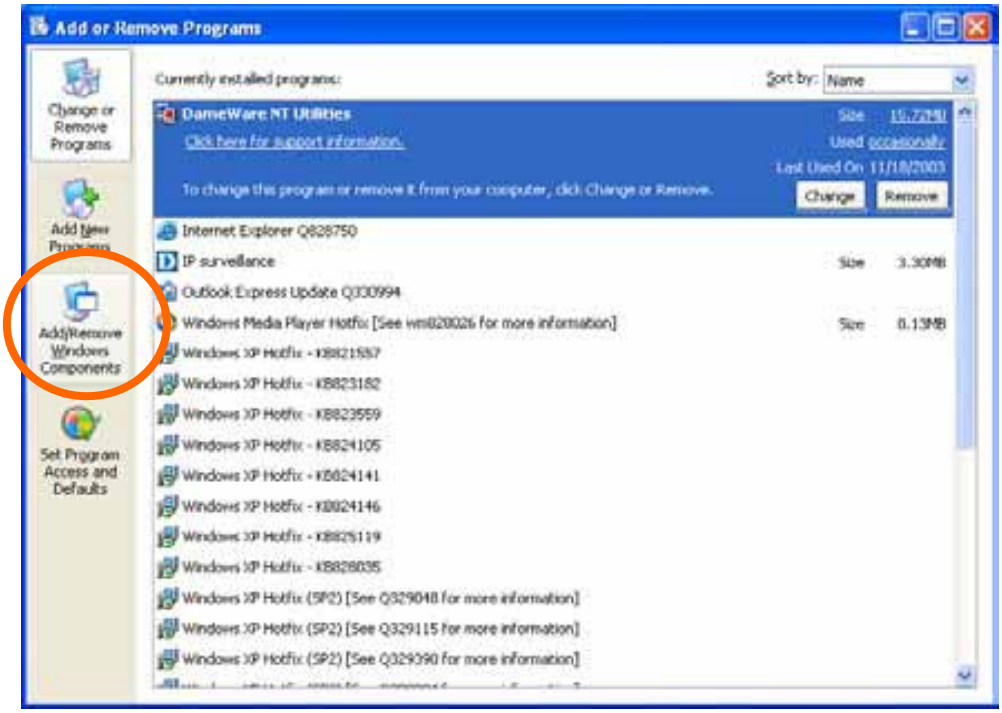
Use the following steps to enable UPnP settings only if your operating system of PC is running Windows XP.



Go to **Start > Settings**.
Click Control Panel

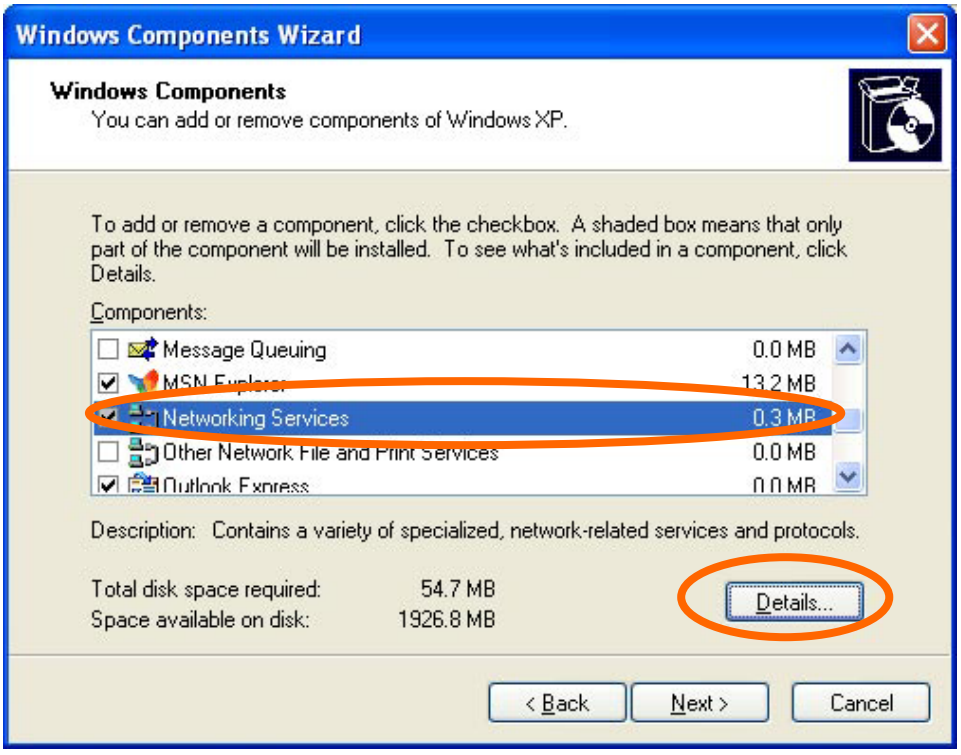


Click Add or Remove Programs



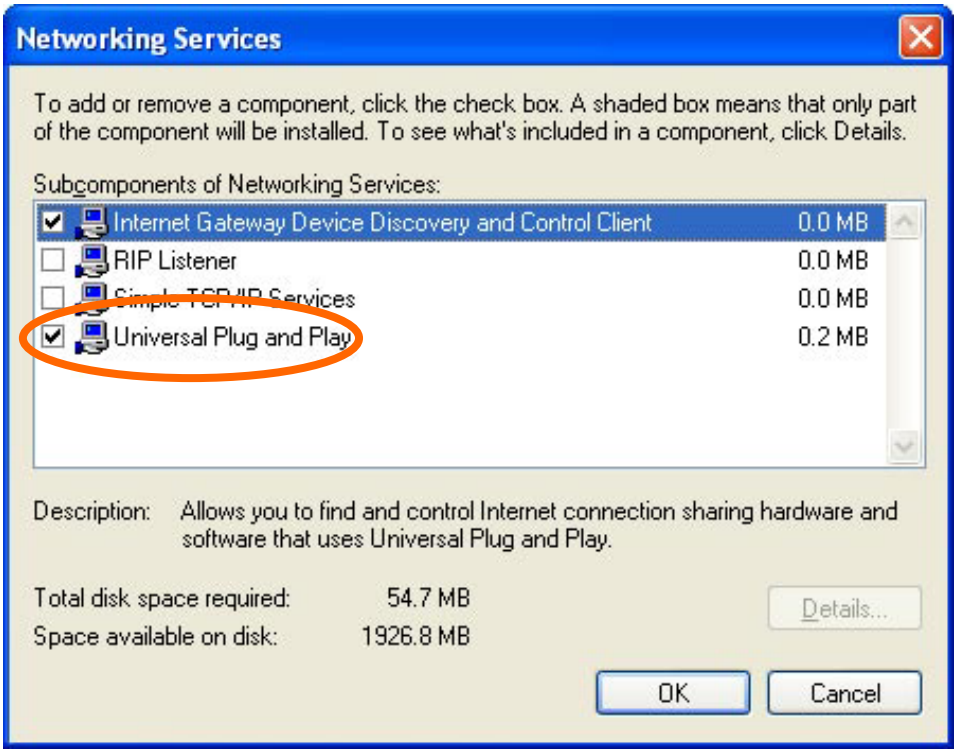
Click Add/Remove Windows Components

The following screen will appear:



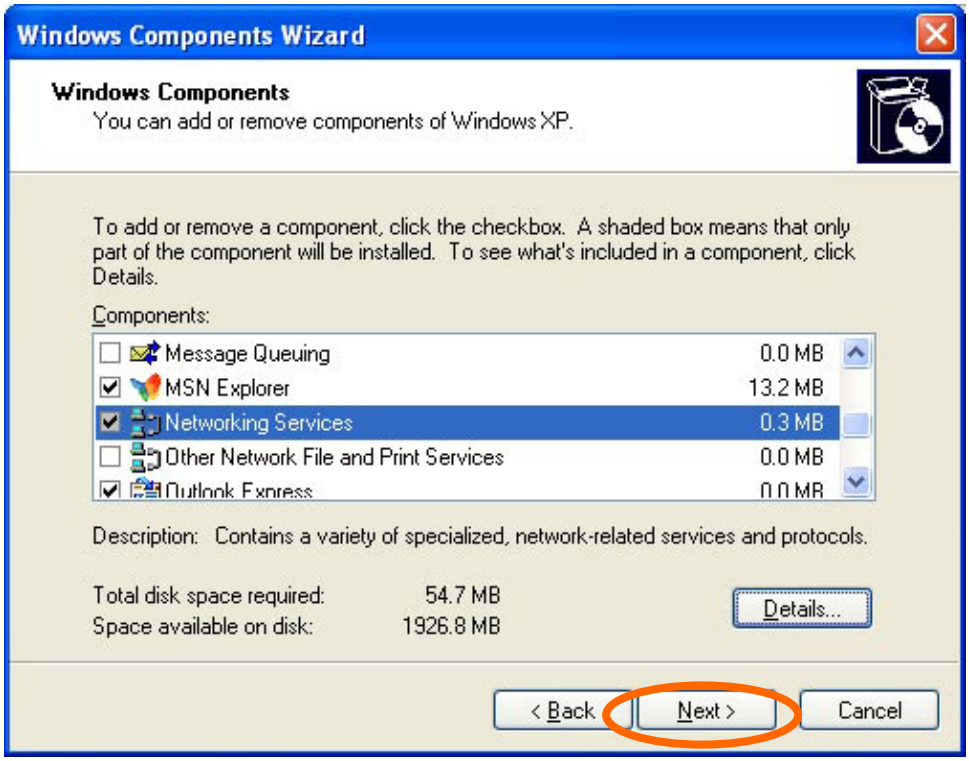
Select Networking Services

Click Details

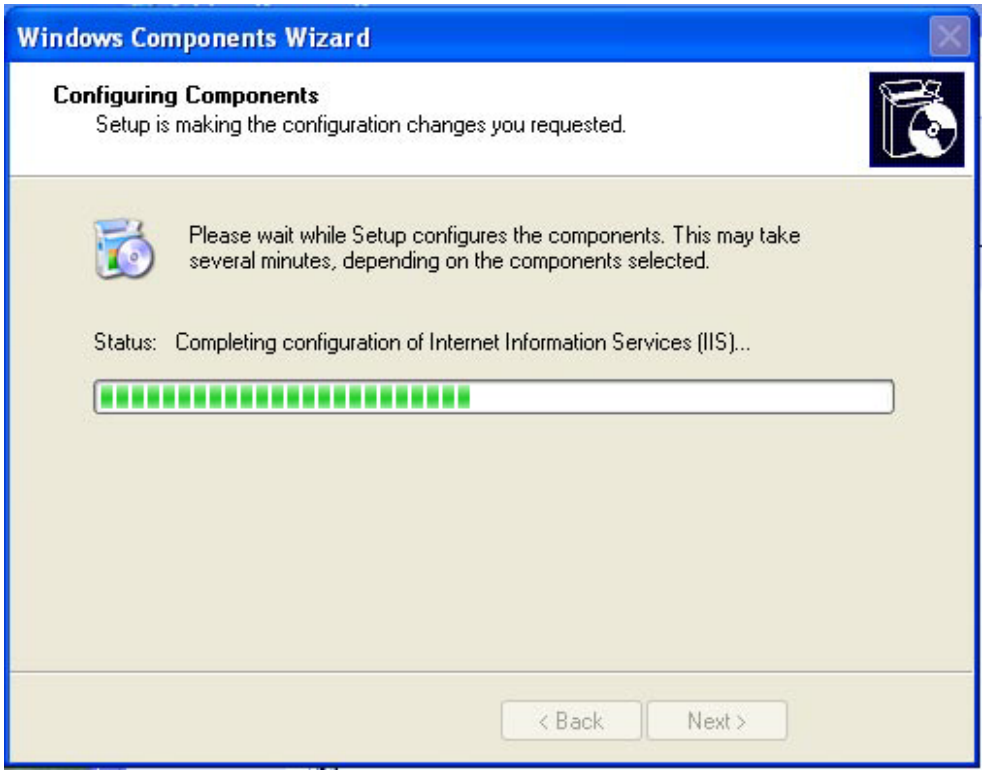


Select Universal Plug and Play

Click Ok



Click Next



Please wait while Setup configures the components.

Click Finish